Special Report
To Management

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January 18, 1960

RAILWAY AGE *weekly*

Review

1959: First comprehensive facts and figures on past 12 months

Outlook

1960: Labor, legislation, buying plans, equipment trends

One Dollar A Simmons-Boardman TIME-SAVER Publication

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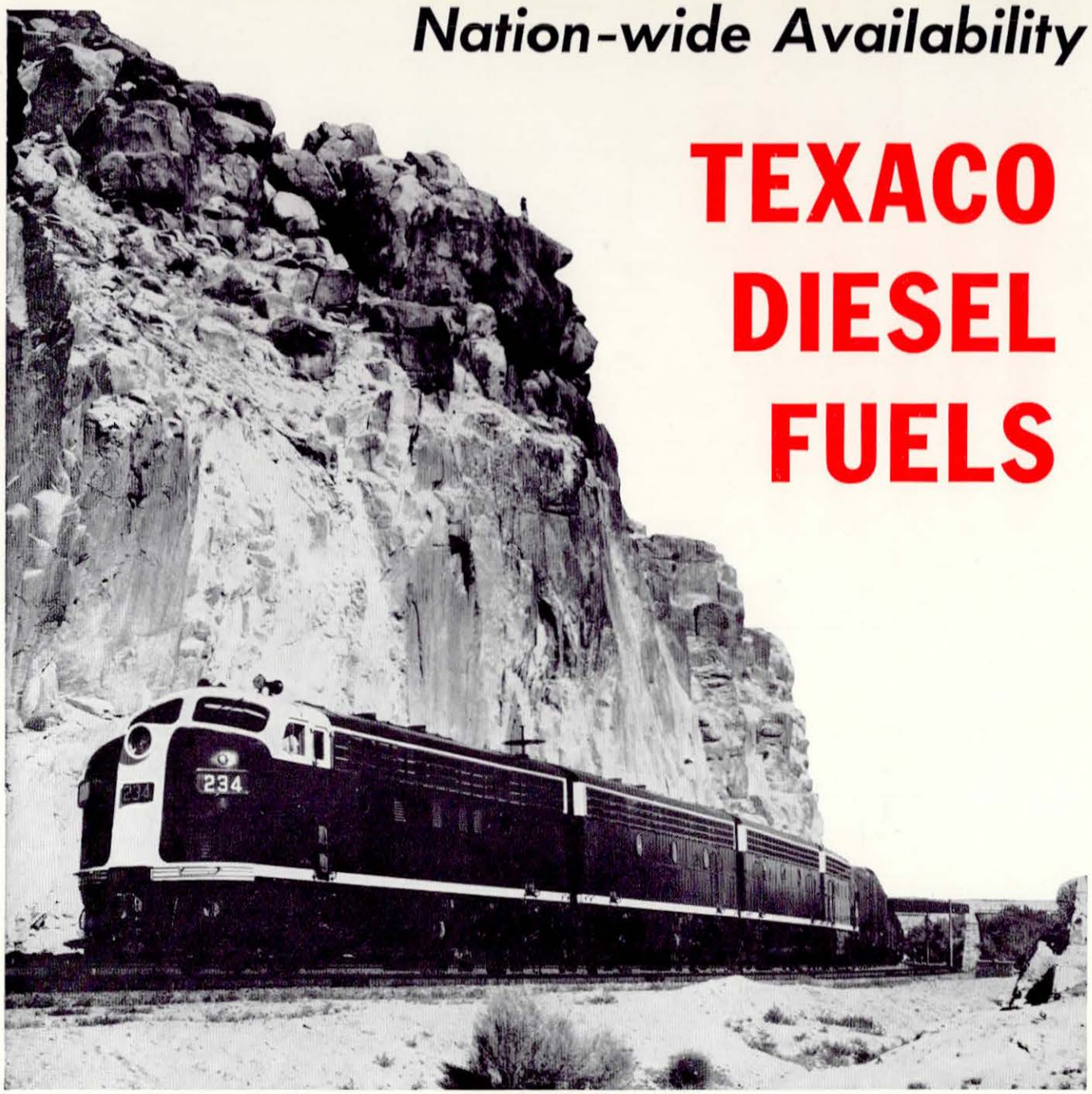

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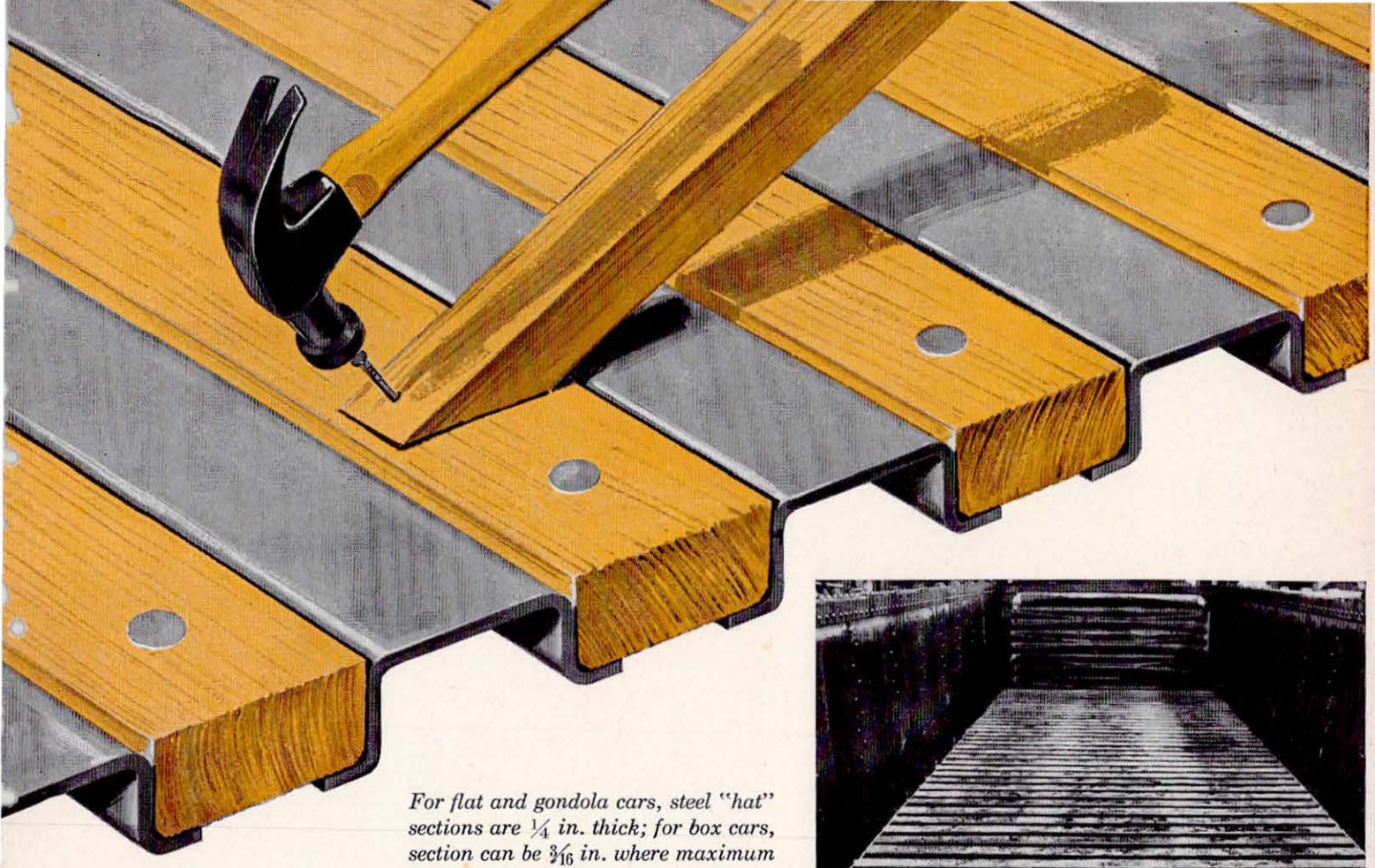

For flat and gondola cars, steel "hat" sections are ¼ in. thick; for box cars, section can be 3/16 in. where maximum load requirements permit.

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Shippers have indicated an overwhelming preference for wood-steel flooring over solid steel or nailable steel types. If you would like further particulars on Bethlehem Composite Wood and Steel Flooring, ask your nearest Bethlehem office for Folder 713, or write direct to the address below.

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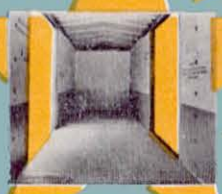
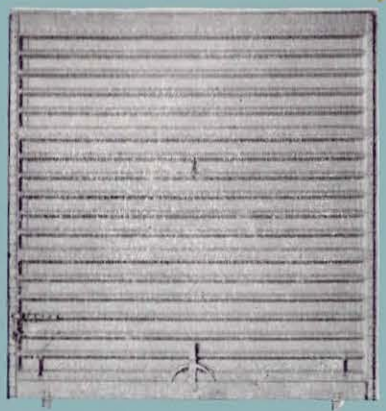
Hatch Frame and Cover

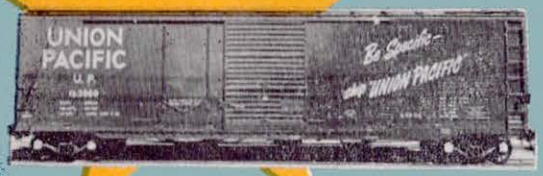


Metallic Lining



Center Operated Lift Door

Gondola Car Side



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5-Point Lock—Plug Door

Diagonal Door Post

Heavy Duty Gusset

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Week at a Glance

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C&NW: 116 new commuter cars ..... p. 9

An order for 116 new double-deck suburban cars, plus conversion plans for 45 locomotives and 48 cars, will give 40,000 Chicago commuters push-pull service by the early autumn of 1961.

What's ahead for 1960? p.17

The railroad industry's outlook for the current year is clouded by unsettled labor conditions. If stalemates develop across bargaining tables, the resulting crisis could have far-reaching effects. Meanwhile, other important elements on the docket are new developments in rolling stock, M/W work and signaling.

Big traffic boost seen for railroads p.25

Freight traffic in 1960 should rise about 5,000,000 cars above the totals of last year—if there are no railroad strikes. One of the brighter spots in the railroads' traffic picture—according to J. W. Milliken, Simmons-Boardman research director—should come from the good year expected by automobile and truck manufacturers.

Review of 1959 railroad operations p.31

Last year began well, says AAR Vice President J. Elmer Monroe, but over-all results were disappointing. Mr. Monroe's authoritative resume of the 1959 railroad story analyzes, among other things, the three principal obstacles encountered by the industry in its efforts to regain a pre-recession level of earnings.

Statistical review of 1959 ..... p.82

Here, in an exclusive Railway Age service to the industry, are 18 tables of statistics summarizing such things as last year's purchases of rolling stock and motive power, signaling and communications installations, construction activity and selected financial items.

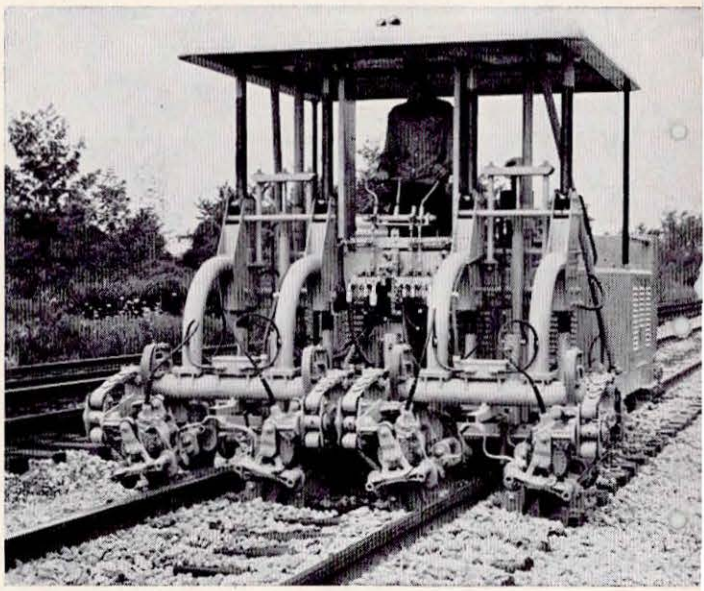
The Action Page — For 1960, get the trends right p.122

This should be a year of progress and prosperity for railroads—compared to the two years just passed. But it will be a critical year, too. Advantage must be taken of every opportunity to correct such unfavorable trends as the rising operating costs per 100 lb of freight and the diversion of freight traffic away from railroads.

YOU CAN'T GO WRONG WITH JACKSON!

THE *NEW* JACKSON JACK-SPOT TAMPER: A product of intensive research, development and testing *with all operations electrically controlled and push-button operated.* It's an exceedingly fast Jack Tamper, adapted to existing track surfacing equipment, a mighty powerful, efficient spot tamper and ideal as an all-around production tamper for those requiring an all-purpose jacking-and-tamping machine.

THE *1960* JACKSON TRACK MAINTAINER: Faster and better than its predecessors though those machines won an endorsement by leading track men such as no other in this category has ever enjoyed . . . purchase and use on nearly all the major systems in America. For the dual purpose of putting up and maintaining track of finest, longest-lasting quality at minimum cost, it is demonstrably the finest money will buy.



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Get the facts concerning these machines and you will recommend them with assurance.

JACKSON VIBRATORS, INC., LUDINGTON MICHIGAN

Week at a Glance CONT.

Current Statistics

Operating revenues	
11 mos., 1959	$8,980,340,079
11 mos., 1958	8,727,008,232
Operating expenses	
11 mos., 1959	7,050,236,098
11 mos., 1958	6,888,226,710
Taxes	
11 mos., 1959	958,748,814
11 mos., 1958	876,893,397
Net railway operating income	
11 mos., 1959	672,127,835
11 mos., 1958	684,853,088
Net income estimated	
11 mos., 1959	484,000,000
11 mos., 1958	514,000,000
Average price railroad stocks	
Jan. 12, 1960	101.80
Jan. 13, 1959	110.20
Carloadings, revenue freight	
1 wk., '60	483,012
1 wk., '59	468,219
Freight cars on order	
Dec. 1, 1959	36,555
Dec. 1, 1958	27,962
Freight cars delivered	
11 mos., 1959	34,254
11 mos., 1958	38,058

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Short and Significant

ICC has denied a loan-guaranty application . . .

filed by the Atlantic & Danville. The road sought government guaranty of an $800,000 loan to reimburse its treasury for capital expenditures, to refinance the balance due on 100 used freight cars, and to pay for maintenance work. The denial order said the Commission could not make the required finding that the applicant's prospective earning power and the collateral it offered furnished reasonable assurance of ability to repay on time, and reasonable protection for the government.

Sleeper service at coach rates . . .

plus a small surcharge for berths has gone into effect on the New Haven between New York and Boston. In conjunction with the lowest round-trip fares between these points since 1940, the new rates are aimed at filling, without additional expense, space that is now vacant on long-haul trains. Two bus lines — Greyhound and Trailways — promptly responded by undercutting the new rail coach rates.

Resumption of negotiations with the non-ops . . .

is scheduled for Tuesday, Jan. 19, in Chicago. Talks involve wages and fringe benefits, are still in preliminary stages. Thus far, there's no indication when first conference committee meetings will be held on the work rules issue. The disputes haven't yet come to national level—but probably will by Feb. 1.

Second-morning arrival in New York City . . .

is featured in New York Central's new "So'Westerner" schedules that went into effect last week. The new trains will handle merchandise freight and Flexi-Vans out of St. Louis at 6:30 p.m. on Mondays, Tuesdays and Wednesdays and arrive in New York at 7 a.m. Wednesdays, Thursdays and Fridays. A Boston connection arrives at 10:45 p.m. on the same days.

Caboose and camp car . . .

manufacturing facilities of Morrison International Corp. have been acquired by Ryder System, Inc., a holding company which operates both a common carrier trucking system in several southern states and a truck leasing firm in the South, Southwest and West. Other Morrison assets Ryder is acquiring are Morrison Leasing Plan, Inc., which, among other things, has leased about $3,500,000 of mechanized M/W equipment to the B&O (RA, March 16, p.15) and International Railway Car Leasing Co. (lessor of approximately 2,400 railroad cars).

Why you can look to MAGNUS for top bearing performance

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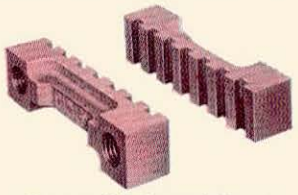
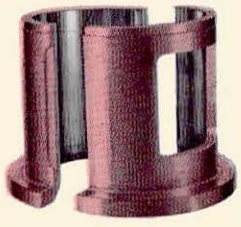
Magnus bearing products have been serving America's railroads for the past century. And in full cooperation with the railroads, Magnus has pioneered many significant advances in bearing metallurgy and design. A recent example: the Magnus R-S Journal Stops. By taking the "slop" out of the journal box, R-S Journal Stops eliminate excessive bearing displacement under the severe shocks of braking and switching impacts—increasing bearing life 200% and cutting costs all along the line. Magnus lubricators provide another link in the chain of improved bearing performance. And in diesel and electric locomotives and MU cars, modern Magnus traction motor support bearings assure trouble-free mileage between motor overhauls.

With this background of experience, Magnus is continually investigating new designs of journal box components for still greater efficiency and economy in railroad service. Whatever the future may hold, of this you can be sure. Tomorrow's rolling stock will ride on Magnus bearings—bearings that are right for railroads, in performance and in cost. For further information on Magnus bearing products, write to Magnus Metal Corporation, 111 Broadway, New York 6, or 80 E. Jackson Blvd., Chicago 4, Ill.

Magnus Solid Journal Bearings



Magnus R-S Journal Stops



Magnus Traction-Motor Support Bearings

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C&NW: 116 New Commuter Cars

The Story at a Glance: The Chicago & North Western is doubling its investment in the future of suburban service at Chicago. The road has just announced plans to spend another $21 million in a modernization program which, by early-autumn 1961, will have all the road's 40,000 commuters riding push-pull style.

New orders (placed with Pullman-Standard) cover 116 double-deck suburban cars, enough to replace C&NW's entire remaining fleet of conventional commuter coaches. In addition, the road will convert 45 locomotives and 48 pre-push-pull double-deck cars for bi-directional operation.

Only the timing of C&NW's new deal for commuters came as a surprise last week. Conversion of 48 existing gallery cars to push-pull had long been in the cards. And President C. J. Fitzpatrick noted last October that the initial batch of 36 push-pull cars "will be the prototype of what we hope can eventually be applied to our entire suburban system" (RA, Oct. 19, 1959, p. 16).

Completion of delivery on the new orders will give North Western 200 suburban cars and 52 locomotives assigned to hauling 40,000 commuters daily on three divisions. Pullman-Standard will start delivery of the cars next September and continue at a rate of 10 cars per month. Locomotives will be converted by the railroad; existing non-push-pull cars will be shaped to the bi-directional pattern during the same period, probably by P-S.

C&NW Chairman Ben W. Heineman said the new outlay, financed by Metropolitan Life Insurance Company, will bring C&NW's recent investment in suburban service to about $43,000,000 —all within the past five and one-half years.

As a result of changes made thus far, the service may show break-even —or black—figures for 1959 (the "most wholesome . . . operating results since the service was created some 80 years ago," according to Mr. Heineman).

North Western's chairman disclaims any notion of the railroad's getting rich from its commuter service. But, he adds, "we do intend to keep it in the black, with the service earning enough to pay for costs of operations and interest and return of principal on the new equipment.

"We expect to do this partly by rate increases and partly by improved efficiency of operations. To the extent that our suburban service can participate in the growth of the area we serve, fare increases can be minimized. We believe commuters from the suburbs we serve are willing to pay what is necessary to obtain a truly modern service, provided they are satisfied that every effort is being made at the same time to operate the service as efficiently and economically as possible.

"We believe commuters will prefer the North Western's modern suburban service over driving their cars to and from Chicago, even on the finest of expressways. We intend to promote our service and compete vigorously in spite of discriminatory taxes and public subsidies to the highways and downtown parking areas.

"In other words," he concludes, "we intend to do everything in our power to attract and hold commuter business."

Among the possibilities: Efforts to increase off-peak patronage.

Mr. Fitzpatrick emphasizes the complete modernization of the operation—and the fact that C&NW will now "be moving masses of people rather than masses of equipment." Each 10-car train will have seating capacity for 1,600 commuters—and they'll ride in plush (for commuters) surroundings, with fluorescent lighting, air conditioning and electric heat.

(C&NW called the complete modernization program "a development without precedent . . . in the American railroad industry"—and it ranks close to that. A comparable program saw Illinois Central spend about $22 million in 1922-28 era dollars for electrification of its suburban line and purchase of 280 commuter coaches. And Governor Rockefeller of New York has said recently that the Port of New York Authority and three railroads—Long Island, NYC and New Haven—have agreed on an order for 250 new commuter cars to be divided among the three roads. That report, however, has not been confirmed by any of the three roads involved.)

Alco's DL-640 Goes Into Service on NYC

Alco's new 2,400-hp diesel, a four-axle, four-motor unit, is designed for high-speed freight operations. Designated the DL-640, the new locomotive is in demonstration service on the New York Central. The three-unit 7,200-hp locomotive is shown at a Delaware & Hudson sanding station between initial shakedown runs.

Crew Wages Top Passenger Revenues

The Milwaukee is attempting to drop two passenger trains on which crew wages per train-mile have been running about four times the passenger revenues earned.

The trains—157 and 158—operate six days per week between LaCrosse, Wis., and Austin, Minn. Hearings were held last week before an ICC examiner at Austin.

Cost figures introduced by the railroad point to losses of $165,618 in 1958 and $101,912 in the first seven months of 1959 on a full-cost basis. Based on out-of-pocket expense only, losses amounted to $72,939 in 1958 and $45,210 January-July 1959.

Revenues from all sources, including mail and express, amounted to 78 cents per train mile during the seven-month period in '59. Expenses and taxes per train-mile (out-of-pocket basis) totaled $1.98, leaving an out-of-pocket loss of $1.20 per train-mile.

Patronage on the two trains during 1958 amounted to the equivalent of seven revenue passengers traveling the full 108-mile distance each trip.

Continued Decline Indicated

According to the railroad, studies indicate that future use of the two trains by the public will continue to decline and that "nothing the railroad might reasonably consider doing to attract greater patronage would reverse the downward trend."

Trains 157 and 158 are normally powered by a 1,000-hp diesel-electric motor car. The usual consist: one mail-express car; one air-conditioned coach; one 10-roomette, 6-bedroom sleeping car.

The Milwaukee emphasized that it's merely a contract carrier of mail and express; that many communities on the trains' route receive mail and express service now by other means; and that alternate means of providing mail and express service will be provided by the Post Office Department and Railway Express if the trains are discontinued between LaCrosse and Austin.

Watching Washington *with Walter Taft*

• **NO "MAJOR" TRANSPORT LEGISLATION** is called for at this session of Congress, in the opinion of Senator Smathers of Florida, who sponsored the 1958 Transportation Act. The senator is chairman of the Senate's Surface Transportation Subcommittee which handles proposed legislation affecting railroads, motor carriers, water carriers and pipelines.

RECENT LEGISLATION "is adequate for present needs in the industry and to protect the public's welfare," the senator says. He cites the 1958 act and the legislation which he also sponsored to repeal the 3% tax on freight charges.

AN EXCEPTION to this general approach will be Senator Smathers' drive to complete repeal of the tax on fares. Under legislation passed last year, this levy is scheduled to be cut from 10% to 5% on July 1. The senator says the revenue involved is not sufficient to justify continuance of the tax which "discourages the use of common carriers for passenger travel, to the detriment of the industry and the nation's passenger transportation network."

TOP-LEVEL NEGOTIATIONS in the railroad wage and rules cases, which involve "featherbedding," are urged by the senator. As he puts it, "the best of both sides" should get together to settle the disputes, because the country can't afford to allow "our basic transportation to grind to a halt."

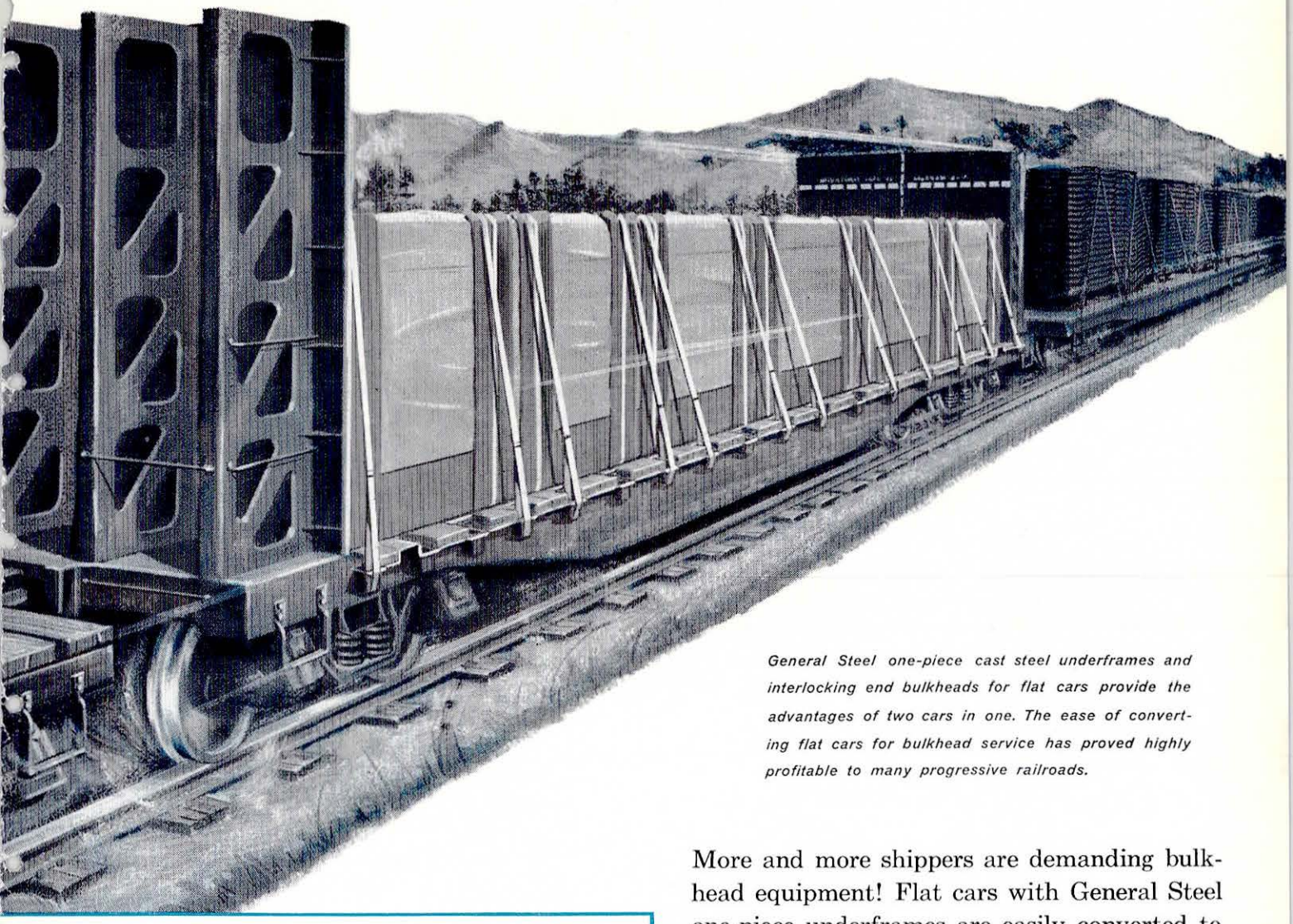
• **LIQUOR-SERVICE RULES** for air carriers have been adopted by the Federal Aviation Agency. Effective March 10, they provide that no alcoholic beverages may be consumed aboard an air-carrier aircraft which are not served by the air carrier. Travelers may still bring their own liquor, but they won't be permitted to pour for themselves. They'll have to turn their bottles over to crew members for serving.

THE REGULATIONS will also prohibit the serving of liquor to passengers who "appear" to be intoxicated. Crew members are thus relieved from judging whether or not a person actually is intoxicated. Enforcement will be carried out by FAA enforcement processes which provide for civil penalties up to $1,000. Violations are to be reported to FAA. Crew members won't be required to take direct action, except when it is necessary to the safety of the flight.

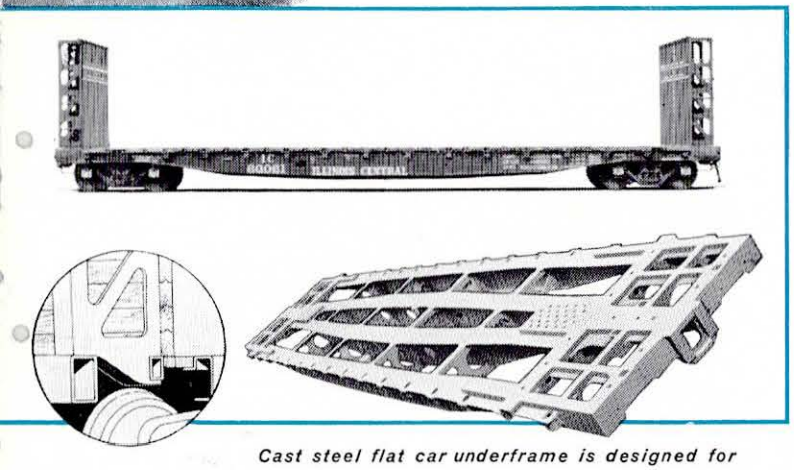
PROHIBITION PROPOSALS were rejected by FAA. It explained that its responsibility is limited to safety. Thus it aimed to prevent abuses which could create hazardous situations, but interfered "as little as possible with the personal freedom of passengers."

• **TRANSPORT REPORT** from Department of Commerce is expected to reach the White House soon. It's the report President Eisenhower asked for a year ago. Commerce's undersecretary for transportation, John J. Allen, Jr., last week submitted a final version to Secretary F. H. Mueller. This was shaped up in the light of the secretary's review of the tentative version he got from the undersecretary last month. Decision on release of the report will be up to the White House.

. . . where railroad progress is cast in steel



General Steel one-piece cast steel underframes and interlocking end bulkheads for flat cars provide the advantages of two cars in one. The ease of converting flat cars for bulkhead service has proved highly profitable to many progressive railroads.



Cast steel flat car underframe is designed for quick, low cost application of upright ends.

More and more shippers are demanding bulkhead equipment! Flat cars with General Steel one-piece underframes are easily converted to bulkhead cars by the application of cast steel upright ends. In all General Steel underframes, the metal is properly distributed where it is needed for strength, and the *extra* strength required for use with end bulkheads is provided as a built-in advantage. The cast steel end posts are easy to apply, permit maximum loading space.

General Steel flat car underframes assure longest life, lowest maintenance costs and greatest availability of equipment. They're your best investment, by far.

GENERAL STEEL CASTINGS

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GRANITE CITY, ILL. · EDDYSTONE, PA. · AVONMORE, PA.

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DEPENDABLE OPERATION

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INCREASED SERVICE LIFE...

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RAILWAY EQUIPMENT PRODUCTS

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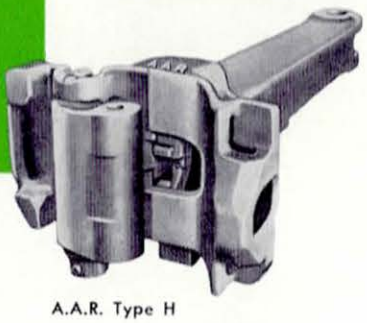
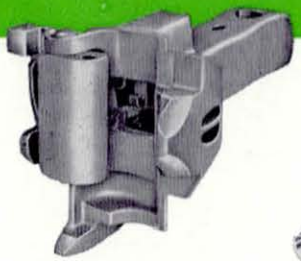
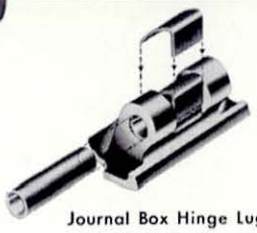


A.A.R. Type H Tightlock Coupler H-80

Composite Articulated Journal Box Lid

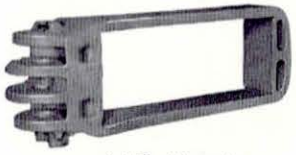


A.A.R. Type F Interlocking Coupler F-70



Journal Box Hinge Lug Wear Plate and Self-Adjusting Bushing

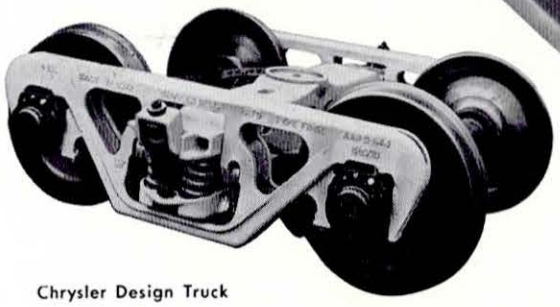
Long Travel Snubber for Locomotives and Passenger Cars



A.A.R. Alternate Standard Vertical Plane Swivel Yoke Y-30

Striking Casting and Center Filler— 3-Piece Design Welded and Stress-Relieved

Yoke Y-65 Standard Pocket for Twin Cushion Draft Gear Application



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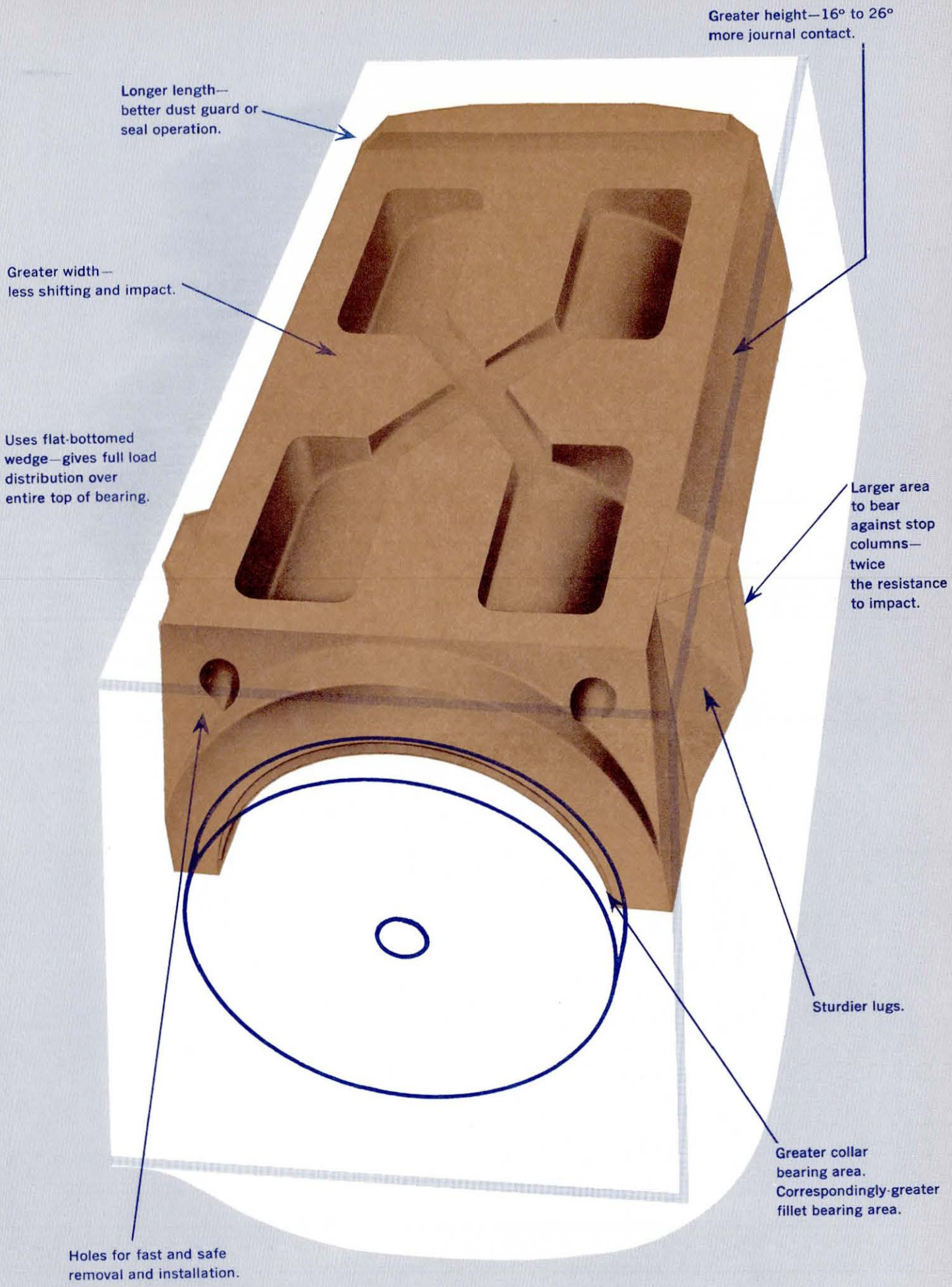
Greater height—16° to 26° more journal contact.
Longer length—better dust guard or seal operation.
Greater width—less shifting and impact.
Uses flat-bottomed wedge—gives full load distribution over entire top of bearing.
Larger area to bear against stop columns—twice the resistance to impact.
Sturdier lugs.
Greater collar bearing area. Correspondingly-greater fillet bearing area.
Holes for fast and safe removal and installation.

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Now you can improve the performance of the standard journal bearing assembly without the expense of modification or the addition of complicated accessories! The Absco *Positive Control* flat back bearing has been developed expressly for this purpose. Here are its principal advantages over the standard steeple back bearing:

Resists displacement of both bearing and axle.

Protects dust guard—helps it keep oil in, dirt out.

Gives your lubricator greatly improved conditions for performing its job.

Reduces impact forces due to reduction of side clearances in the box.

Provides over twice the contact area with the stop column.

Resists tilting of the bearing under impact.

Reduces oil consumption through improved performance of the dust guard or seal.

Reduces spread linings, and substantially reduces the hazard of having strands of lubricator material trapped between journal and bearing.

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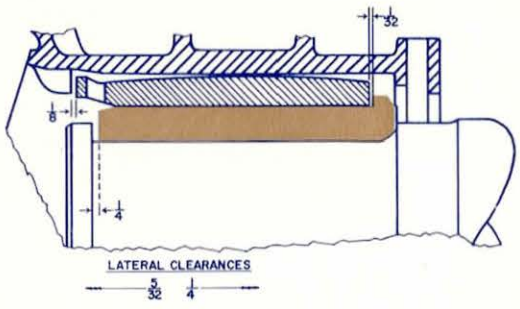

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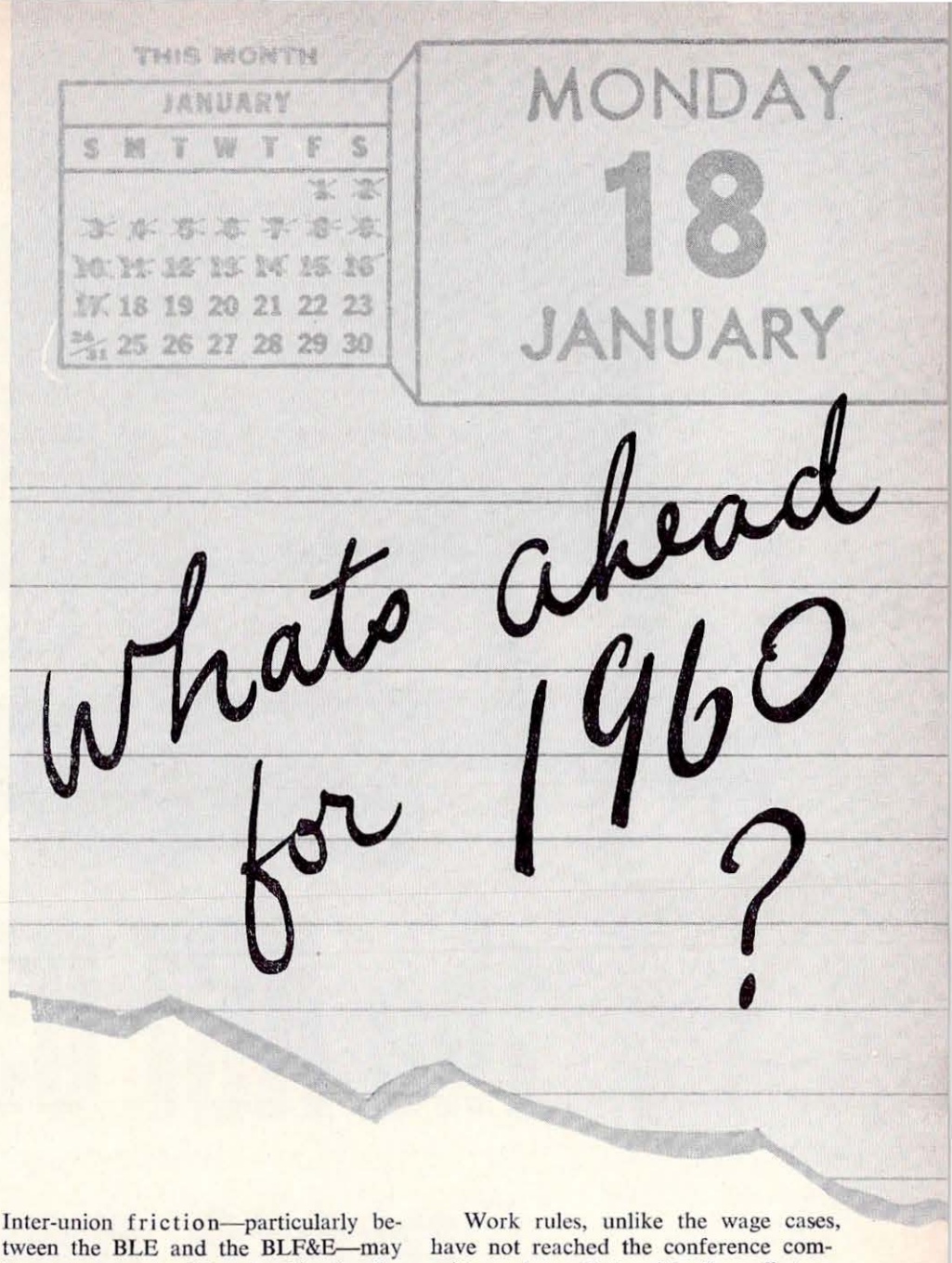

One major uncertainty about railroad prospects in 1960 vanished two weeks ago with settlement of the steel strike. A second uncertainty remains: the railroad industry's own complicated, and as yet slow-moving, bargaining with the brotherhoods.

This unsettled labor condition, involving both wages and working rules, immediately tempers any attempt to appraise the railroad outlook for 1960. Too much is at stake—millions in added wage costs if the unions win higher pay; substantial savings to carriers if they secure changes in "obsolete" operating rules.

If stalemates develop across bargaining tables, the resulting crisis could have far-reaching effects. Even short work stoppages on individual properties could throttle railroad earnings. Equally important, there already are indications that Congress will take a hand in the matter, by request if not on its own motion. Railroads hint at seeking strike-prevention legislation; labor says it may have to seek a "new remedy" for handling rail industry disputes and a legislative proposal "is not impossible."

Thus 1960 begins under a cloud. And from present indications it's one that won't be resolved until April or May, at the earliest.

At present, wage talks are ahead of the work rules case in the bargaining time-table. Status of the talks is a guarded secret, but the Brotherhood of Locomotive Engineers, a front-runner at the moment, is known to have authorized a strike ballot, then to have held it up while negotiations continue. The Trainmen, meanwhile, took time out for an intramural fight in which a "get tough" insurgent group sought to oust President W. P. Kennedy. The issue wasn't settled when this story was written.

Nor had the operating crafts, as of early January, filed their rumored counter-proposals to the work rules changes proposed by the railroads. Inter-union friction—particularly between the BLE and the BLF&E—may be one reason, although this is discounted in some quarters since the two unions signed a no-raid pact in Canada recently.

The whole work rules argument came sharply back into focus with the steel settlement. There, too, featherbedding was an issue and it's generally conceded that management lost the fight. Some railroad men view this as a psychological setback in their own case, but it will be several weeks before the impact can be measured.

The unions, meanwhile, have stepped up their campaigns to sway public opinion in the rules case. Letters to editors have flooded newspapers, particularly in small-town and rural areas, and there have been several advertisements, purportedly placed by union members as individuals. This stepped-up activity has been more noticeable since the AAR ended its own newspaper ad campaign late in 1959.

Work rules, unlike the wage cases, have not reached the conference committee stage. But with the off-stage sparring for position, and with wages still up in the air, Congress may indeed intervene. For one thing, neither political party will be willing to have a major industry crisis in an election year; for another, Congress may decide it has a duty to "determine the facts." Senator Wiley of Wisconsin has already suggested that possibility (RA, Dec. 4, 1959, p. 10).

And if Congress gets into the controversy at all, that will probably lessen railroad chances of obtaining other legislation during the rushed election-year session. Nevertheless, railroad officers close to the legislative scene remain hopeful they can obtain new income-tax arrangements to provide 15-year depreciation on rolling stock. Such help, while still desirable, would be considerably less than the construction-reserve proposal the carriers first ad-

(Continued on page 20)

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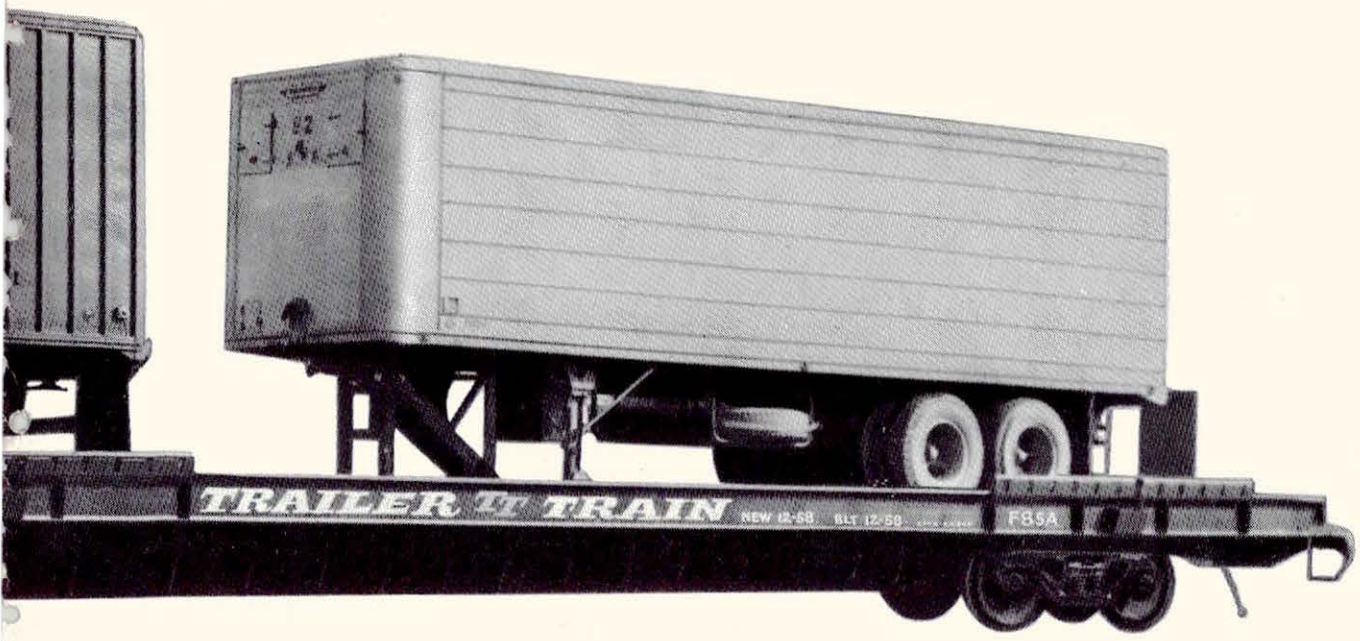
economy in loading: With ACF Retractable Trailer Hitches, as standard equipment, trailers can be loaded and secured in less than three minutes by one man. There is greater cushioning protection, greater safety to trailer and lading without special handling.

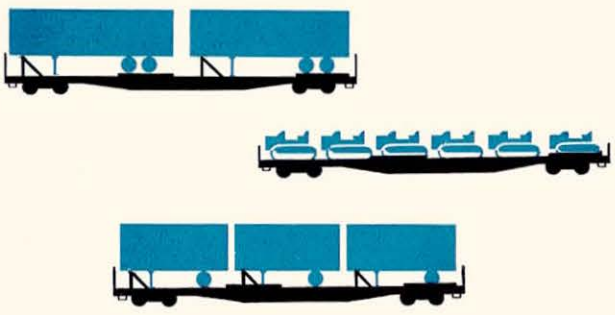
economy through versatility: Car will accommodate all sizes and types of trailers without special attachments on the trailers. With slight modifications, the car may be used for most types of farm and construction equipment or military vehicles.



helps railroads achieve piggyback operations

economy of initial and long-run cost:

Car delivered complete with ACF Trailer Hitches, combination side sill and guide rail, anchor safety chain and bridge plates. Save on maintenance as well as initial cost.



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vanced two years ago. The 15-year depreciation idea, incidentally, is supported by the ICC.

Other legislative proposals which railroads can be expected to pursue in 1960 include diversification, passenger-tax repeal, application of user charges on publicly-provided transport facilities and repeal of the agricultural exemptions clause of the I.C. Act. Of these, the passenger tax repeal looks most hopeful. Congress has already agreed to cut the tax from 10% to 5%, effective July 1.

The other railroad proposals, as it looks now, will face slow going. The carriers may, in fact, find themselves preoccupied with fighting brush-fire legislation from the unions. Some Washington observers feel that Congress may be inclined to "do something" for labor in 1960 to offset the stiff labor legislation passed in 1959.

George Leighty, chairman of the Railway Labor Executives' Association, has already made known his organization's interest in legislation to tighten accident-reporting requirements; and the brotherhoods can be expected to continue plugging for legislation to make employee payments under the Railroad Retirement Act deductible on income tax returns. The danger here, from the carrier standpoint, is that such an arrangement might pave the way for increased benefits under circumstances where the pain of paying increased payroll taxes would be eased for employees.

Elsewhere in the legislative picture for 1960 are the various proposals, including two new ones, contained in the ICC's annual report (RA, Jan. 11, p. 10). It is much too early yet to tell whether Congress will give these points serious study. A number of them are holdovers from last year and have already been drawn up in the form of proposed bills.

The Senate's study group, with the broad assignment of looking into transportation conditions generally and suggesting new or changed legislation, will probably not come up with any definitive program this session. They must first, in fact, be given renewed authorization or else go out of existence by January 31.

In addition to such external concerns as legislation, overall business conditions and traffic, and the semi-public labor negotiations, railroads in 1960 will be coping with problems of change on their own lines. The following reports, prepared by Railway Age departmental editors, point up what railroad officers will be facing in the months ahead.

Freight Cars

A trend toward increased investment in individual freight cars became evident as the decade of the fifties closed.

Car orders placed by a number of roads indicated that tightly-held purse strings finally were being relaxed so that railroading and its customers would receive the benefits which an advancing technology are making available.

Railroads were not buying in a way that would secure them the largest number of freight cars for a given sum. They were purchasing units with performance, reliability and customer attraction which are aimed at making them potent competitive weapons in this new decade. A brand-new concept of the meaning of getting the most for the money was suddenly pervading railroad freight car planning and purchasing.

Justifying increased investment is probably more difficult in this realm of railroading than in any other. Vagaries of traffic levels and traffic patterns, coupled with the swiftly advancing U. S. technology, can do much to make special (and even conventional) cars obsolete or surplus. But many rail-

JOURNAL LUBRICATORS APPLIED TO REVENUE FREIGHT CARS

	Railroads				Private Car Owners				Both Railroads and Private Owners			
As of	Cars Equipped in period	Cumulative Total	Total Ownership	Per Cent Equipped	Cars Equipped in period	Cumulative Total	Total Ownership	Per Cent Equipped	Cars Equipped in period	Cumulative Total	Total Ownership	Per Cent Equipped
12-31-54	4,363	4,363	1,745,682	0.2	.....	.....	.....	....	.....	.....	.....	....
12-31-55	17,773	22,136	1,745,682	1.2	.....	.....	.....	....	.....	.....	.....	....
12-31-56	68,446	90,582	1,760,070	5.1	.....	.....	.....	....	.....	.....	.....	....
6-30-57	82,503	173,085	1,760,070	9.8	.....	.....	.....	....	.....	.....	.....	....
12-31-57	124,575	297,660	1,760,070	16.9	15,067	15,067	312,727	5.5	139,642	312,727	2,031,203	15.3
6-30-58	122,862	420,522	1,760,070	23.8	9,560	24,627	445,149	9.0	133,422	445,149	2,031,203	21.9
12-31-58	131,516	552,038	1,798,465	30.6	17,251	41,878	593,916	15.1	148,767	593,916	2,075,219	28.6
6-30-59	173,220	725,258	1,798,465	40.3	35,501	77,379	802,637	27.9	208,721	802,637	2,075,219	38.6

Source: AAR Mechanical Division

ROLLER BEARINGS APPLIED TO MAIN LINE FREIGHT CARS

Type of Car	1939	1940 to 1947 incl.	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959[2] Delivered	1959[2] On Order	Totals
Box[1]	9	60	25	1	..	..	4	108	2	314	1,910	3,082	1,801	2,035	11,164	20,515
Stock	..	2	471	15	51	..	234	..	..	..	..	..	198	..	3	974
Refrigerator	..	1	..	..	..	..	101	181	191	144	829	1,902	506	250	1,478	5,583
Gondola	..	..	..	..	..	..	..	100	..	26	1	100	144	215	1,891	2,477
Hopper	..	..	334	340	..	..	..	25	99	902	886	1,681	250	300	2,925	7,742
Covered Hopper	..	25	1	..	..	450	140	758	1,126	333	1,089	2,493	1,378	1,274	1,739	10,806
Ore	..	..	..	20	..	..	150	1,203	1,391	1,332	703	651	776	..	..	6,226
Flat & piggyback	..	3	..	..	..	..	8	..	159	684	160	1,267	2,118	1,775	2,707	8,881
Pulpwood	..	..	..	..	..	150	525	925	..	10	101	1,150	100	..	..	2,961
Tank	..	26	..	..	..	2	..	2	154	138	114	121	81	7	192	837
Caboose	..	7	..	20	..	..	15	..	..	33	84	3	25	..	4	191
Miscellaneous & not specified	..	153	..	..	..	..	..	16	5	2	5	3	25	24	5,167	5,400
Total	9	277	831	396	51	602	1,177	3,318	3,127	3,918	5,882	12,453	7,402	5,880	27,270	72,593

[1] Includes insulated box cars
[2] Up to Dec. 7, 1959
Source: Data Supplied by three leading manufacturers

roads and car leasing organizations across the country are willing to take the risk, and seem certain that their investment will pay off.

Largest single order for roller-bearing freight cars ever placed was entered by the Louisville & Nashville at the end of last November. Discussing the 3,000-car, $33,000,000 order, W. H. Kendall, L&N president, commented that "although the roller bearings will add $2,400,000 to the cost, we are convinced, after a careful study, that the sealed bearing represents the most adequate solution to the hotbox problem."

In 1959, over 40% of all U. S. and Canadian freight cars ordered were to be roller-bearing-equipped; up from 10% in 1957 and approximately 25% in 1958.

At year's end, the Southern Pacific ordered 100 hopper cars with aluminum bodies. Already the first of 1,200 open-top and covered aluminum hoppers ordered by the Southern last July were rolling off the production lines.

These are the first substantial orders ever placed by U. S. roads for aluminum freight cars. Willingness to make an increased investment for a better load-to-tare ratio was given by the Southern as a primary economic justification for its order. The lightweight freight car concept had been dormant for years.

Freight car orders placed in 1959 exceeded the 1957 figure of 42,024 cars. The 1959 total was about three times higher than that of the recession year 1958 when only 15,746 cars were ordered. Almost 20% of last year's car orders were for covered hoppers, piggyback cars, and mechanical refrigerator cars—types which have gained new prominence over only the past three or four years.

"An exceedingly active market" for passenger equipment should develop within the next 10 or 15 years out of the commuter problems of major American metropolitan areas, Budd Co. President E. G. Budd, Jr., recently predicted. During 1959, orders were placed for 330 transit cars for New York City and for 270 cars for Philadelphia. In New York, funds already have been made available for the purchase of about 300 cars during 1960.

Soon the Long Island, New Haven and New York Central could be placing orders for up to 370 multiple-unit electric commuter coaches. The cars would be acquired with the assistance of the commuter aid program of the State of New York through the Port of New York Authority. The cars are to be 85-ft units, seating 127 or 130 passengers.

(Continued on page 22)

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Motive Power

Big news is being made by current motive power developments as we enter 1960. This is an unusual situation. For years locomotive development has been covered pretty much by the answer to one question: "What's new in diesel-electrics?"

The answer to this question is still of primary importance. But as 1959 drew to a close, two other locomotive types, the diesel-hydraulic and the coal-burning gas turbine, stole the spotlight.

Two western roads, one the Denver, Rio Grande & Western, are reported to have contracted for six 4,000-hp German-built Krauss-Maffei diesel-hydraulic locomotives (RA, Nov. 23, 1959, p. 9). The roads have been reluctant to discuss the orders, but German sources have confirmed them. Acquisition of these locomotives will have little impact on the 1960 motive power situation. But, if these units demonstrate their adaptability to American operations, they could, in time, offer a serious challenge to the diesel's electric transmission.

According to the British publication, Diesel Railway Traction, in September 1959 there were about 118 diesel-hydraulics in service and 155 on order in Western Europe. With 1,600 to 3,000 hp, these units operate or will operate in both freight and passenger service. An advantage of the diesel-hydraulic is said to be its ability to deliver high tractive force at low track speeds. They normally produce continuous rated tractive force at the drawbar equal to 22 to 27% adhesion at 13 to 16% of maximum speed.

Another western road is planning on producing a coal-burning gas-turbine locomotive this year. Here, too, the road has not released any details. Available information indicates that the prime mover will be basically the same as the unit designed by the Locomotive Development Committee. If successful, this motive power type would be welcomed by the coal producers who lost a large part of their market when diesel replaced steam power.

In the experimental field, one other significant motive power development made news late in 1959. This was the report of tests by a western road of a crewless road-switcher located in the middle of the train (RA, Dec. 21, 1959, p. 7).

Controlled by radio from the lead engine, the tests were said to have confirmed the feasibility of operation. With technological and economic forces moving toward "automation" in railroading, these tests could very well open the door to more experimental work.

MODIFIED KRAUSS-MAFFEI diesel-hydraulic locomotives will probably be running on American rails in 1960. This is the 101-ton, 3,000-hp K-M prototype that has been in service on the German Federal Railway since June 1958. It is a C-C type, delivering almost 60,000-lb continuous rated drawbar tractive force at 12.3 mph. Top speed is 87 mph. (Photograph Courtesy Diesel Railway Traction)

While these innovations in locomotives made news, their influence on motive power thinking must await the results of performance tests. In 1960 the acquisition of high-horsepower diesel-electric units, and continued modernization of the diesel fleet, will dominate the motive power market.

As this issue went to press, Alco Products, Inc., was ready to unveil its new four-axle, four-motor 2,400-hp unit designed for high-speed freight service. Both Alco and EMD have been marketing currently popular six-axle, six-motor 2,400-hp units but this is the first time one of these major builders has attempted to channel this much power through four motors in a diesel freight unit. However, it is not the first of this type to be built. General Electric has had two 2,400-hp units with this wheel arrangement in road tests for some time, but has not released data on either design or performance. From available information the GE units appear to have excellent operating characteristics, especially when equipped with wheel slip detection and correction means.

All signs point toward even higher horsepower in the diesel-electric unit. Competition from other high-horsepower types such as the diesel-hydraulic and gas-turbine designs could very well accelerate the trend to more power per unit. A logical next step would be a 3,000-hp six-axle, six-motor unit.

Both age and new designs have tinged postwar diesel-electric models with an aura of obsolescence. A big question railroads have to answer is what to do with large numbers of diesels that have about reached the end of their economic life. Repairing and replacing in kind the worn out parts will not give them the inherent better power and economy characteristics of available new designs. For this reason they will be going back to builders in greater numbers for complete rebuilding.

With the steel strike settled there will be an upsurge in repair and maintenance programs. As of Oct. 1, 1959, there were 1,608 units in or awaiting shop, about 300 more than in this classification three months earlier. Now there will be acceleration of the programs to catch up with the heavy backlog of deferred maintenance.

This year will also see better utilization of motive power. Several large roads have been working on both the methods and means to centralize control of all locomotives. Available com-

(Continued on page 109)

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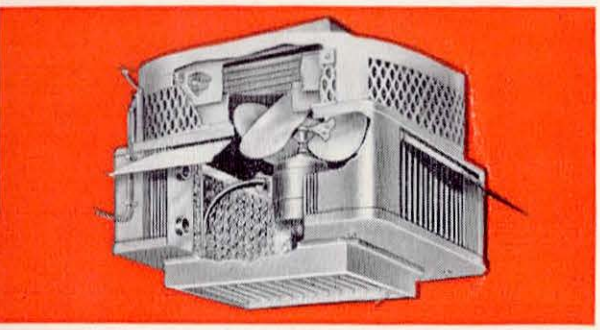

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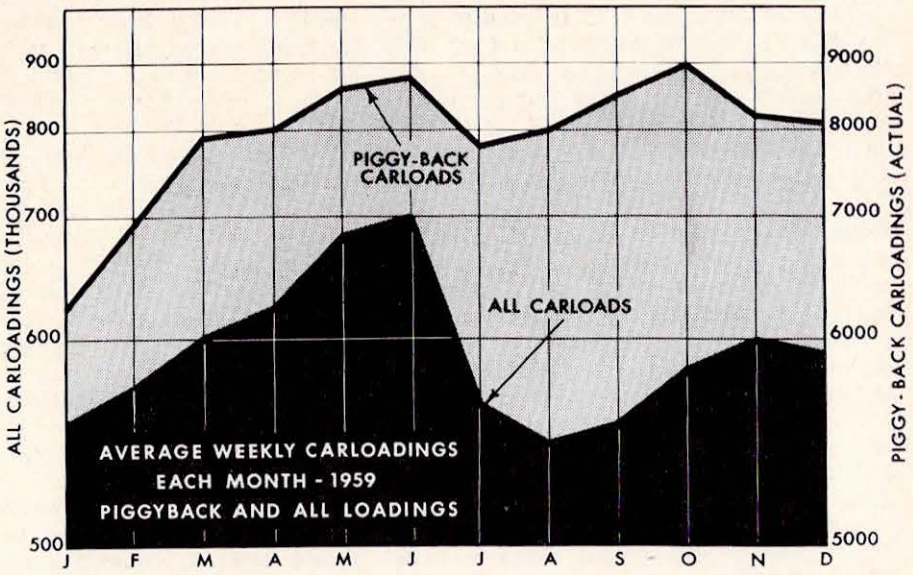


If there are no strikes on the railroads in 1960, the carriers should enjoy a year in which freight traffic will rise about 5 million cars above the 1959 total of about 31 million loads.

Thus, Railway Age is holding to its earlier prediction (Sept. 21, 1959, p. 28), that about 36 million freight cars will be loaded in 1960. During the first quarter, which is of most immediate concern, now that there is assurance of no renewal of the steel strike, loadings should be approximately 9-9.5 million cars. The latter prediction assumes no abnormal amount of bad weather.

In spite of the long steel strike, 1959 was a pretty good year for the economy generally. The upturn in the business cycle which began about mid-year in 1958 continued to gather momentum until about mid-year '59, when the steel workers struck. True, the rail carriers did not share in the upturn to the same extent that their highway and waterway competitors did. As many persons have noted, this was due largely to the fact that in its earlier stages the business revival was largely the result of consumer buying.

In 1960, the expansion phase of industry, expressed in plans for new plant and equipment, will supply a much larger part of the momentum for the business cycle's upward thrust. Thus, the railroads will tend to pick up a larger share of the potential traffic than they did when the emphasis in the economy was on production of consumer goods. This is not to say there will be no "consumer" traffic—far from it.

Actually, automobiles and a number of other consumer durable items—such as kitchen appliances—should be moving in growing volume this year, and some of this traffic, too, should gravitate to the railroads. Piggyback apparently is giving the railroads increasingly better chances to get a larger share of this traffic.

A large part of the railroads' traffic, historically, has been construction materials. Although homebuilding in 1960 should fall somewhat below the levels of 1959 activity, non-residential building will take up much of the slack that otherwise would be lost. Thus, traffic in building materials should be as good as, or slightly better than, it was in 1959.

One of the brighter spots in the railroads' traffic picture this year should stem from a good year for the automobile and truck manufacturers. Assembled autos, as well as parts, should move by rail in larger volume than they have in a number of years. Part of this favorable happening is due to the railroads being able to recapture some of this traffic, which in recent years has moved by highway. Plan V piggyback, for example, is enabling the rails to regain part of the movement of assembled autos from factory to showroom. Some of this traffic will move all the way from Chicago to the West Coast.

Piggyback loadings in 1959 were up 50% over corresponding traffic in 1958. Because of the still-developmental nature of this traffic, forecasting the loadings for 1960 is something of a problem. New roads getting into the act, Plan II roads suddenly deciding they'll get into Plan I, etc., make such estimating difficult.

However, in all probability another growth of about 50% is more than a faint possibility. Thus, the railroads in 1960 may well handle one million revenue-producing trailer loads of freight or empty trailers moving in Plan I.

Incidentally, a glance at the chart will indicate how well, relatively, piggyback traffic held up during the period of the steel strike, compared with carloadings as a whole (including piggyback). True, piggyback did slump rather sharply in July of '59, by about 12%, while total carloadings dropped about 20%. And, piggyback started climbing back up the ladder in August, while carloadings as a whole continued their decline, turning up slightly in September.

In part, this "superiority" of piggyback was due to the fact that new tariffs were attracting new business, while the historical bulwarks of rail traffic were hard hit by the steel strike and seasonal factors. However, at least a part of the relatively better piggyback loadings picture was due to the nature of the traffic moving in TOFC. Piggyback is definitely picking up traffic which hitherto moved by truck. And truck traffic in 1959 was up about 15% from 1958 levels, in spite of the steel strike.

In support of our contention that rail traffic probably would rise substantially this year, and that the increase would be due primarily to the movement of heavier materials, it is interesting to note that the truckers are predicting only a mild increase in their traffic levels this year, as opposed to last. This forecast probably also can be taken to indicate that piggyback is being felt a bit in some quarters by the truckers.

Last year was one in which the railroads made some significant advances in their business-getting activities. For example, some of the research work of past years began to result in traffic, or at least in some favorable decisions from the regulatory bodies. For example, the paint rate case was decided favorably for the railroads, as were a number of items concerning piggyback.

It's a bit early, probably, to be able to point to some of these decisions and say that they brought back to the rails any specified amounts of traffic. Results really probably won't begin to show up until this year.

In 1960 we might expect that the big traffic news would be more interest in joint rates between railroads and truck-

ers, or railroads and the waterway operators. There was some activity in this field in 1959. Since none of the competing media exactly trusts the others, progress will be slow.

However, since the ICC frequently has urged such joint rates, and a few hesitant steps in the direction of more coordination of the various transport media have been made, with still more under consideration, look for more of the same in 1960.

Buying To Rise

With traffic and revenues headed upward, an increase in railroad buying certainly is in the cards. Purchases of fuel, material and supplies for operating purposes totaled about $1.45 billion in 1959, with capital expenditures running another $829 million. Thus, 1959 total railroad buying approximated $2.3 billion.

In 1960, purchases of operating materials and supplies should climb to about $2 billion, and capital expenditures to $1.2 billion. Total railroad purchases in 1960, then, should be up about 40% from 1959 levels.

High on the list of items on capital expenditures budgets, as always in good traffic years, will be freight cars. Back in September Railway Age estimated that 80,000 cars would be ordered during 1960. Normally, traffic prospects being what they now are, we'd be inclined to raise this figure a little. However, in view of the background against which today's railroad labor negotiations are being conducted, we'll stick with our original estimate. Cars delivered to the carriers during the year should total about 60-65,000.

The need for more cars is great. It seems clear now that there will be car shortages of rather serious dimensions during the first quarter of this year. Wide-door, 50-ft box cars will be one class of equipment in which demand will exceed supply. And, as usual, class "A" box cars of all types will be sought widely, and to a large extent in vain. Gondolas and hoppers will be tight also, as steel production continues at near capacity levels, and coal begins to move in ever increasing volume.

These shortages will continue into the second quarter of the year, but the situation should begin to improve somewhat after mid-year. All this, of course, assumes that there will be no serious strike by the brotherhoods against the railroads themselves.

Piggyback has brought with it some changes in railroad equipment purchases. Flat cars, of course, have become a fast-growing market for the nation's manufacturers of highway equipment.

In 1959, for example, the railroads probably bought, or leased long term, about 2,000 highway trailers. (This does not include most purchases by railroad-owned trucking companies.) The names of trailer builders are now almost as familiar to railroaders as are those of car and locomotive suppliers. On the basis of the increases in piggyback we've forecast for 1960, we would expect trailer purchases this year to be at least 3,000 units.

Under normal circumstances, following a settlement of the type which the steel companies have just made with their employees, one could expect a quick increase in steel prices. However, the situation today is far from normal. Thus, it is difficult to tell precisely when such an increase will come, but come it undoubtedly will.

The timing of any such increase obviously will have considerable effect on the railroad buying picture. Any substantial increase in steel prices probably would tend to reduce the number of freight cars the railroads would buy, the amount of rail they would lay, etc. On the assumption that there will be no major increase in steel prices until late in the year, we'll say that our buying forecasts will be unaffected.

Railroading After Hours with Jim Lynch

PROFESSORIAL PILOT—Talk about your transportation people who find time to take on big jobs on the side—here's a case from Stanford University: Gayton Germane (professor of transportation and head of the summer transportation management program, sponsored by SP), is temporarily in Washington as director of transportation policy for the Defense Department. Standing in for him in his professorial duties is Karl Ruppenthal—who, part of his time, is an airplane pilot for TWA. I found out about Mr. Ruppenthal's active aviation connection from the Kansas University Alumni Magazine —he being a Jayhawker by origin.

'CROWSON QUESTION'—Office Engineer Tibbits of the Erie comes along with a suggested answer to the important question raised several years ago by IC's George Crowson—and not as yet adequately answered. This question in substance, is: What can railroads do to keep in touch with the public, now that their passenger service is so largely unpatronized? Mr. Tibbits says, in part:

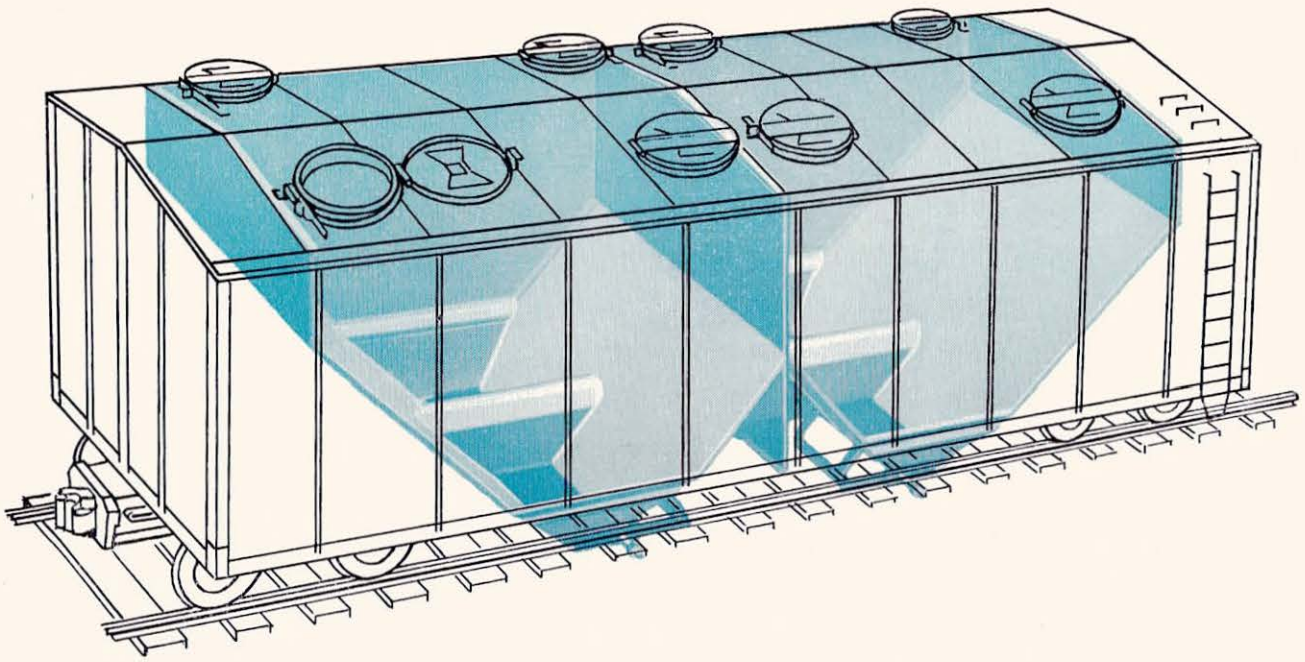
"One solution that occurs to me is simply to use some medium of local advertising such as television, radio, newspaper, billboard or car cards to publicize the services contributed by railroads to the community.

"There are two such services they should advertise. One, the amounts of local taxes, itemized railroad by railroad. Railroads derive little benefit from these taxes. They require little police and fire protection.

"The second important railroad service which should be publicized is that of furnishing the main transportation for the quantities of food and other supplies required by the community. I am thinking mainly in terms of large centers of population. In the smaller communities, much food and other supplies arrive by truck. These truck deliveries, however, generally originate at warehouses in the larger centers which are served by railroads."

TO HIM THAT HATH—Mr. Tibbits enclosed a clipping from the Cleveland Plain Dealer, telling about a local effort to get Uncle Sam to ante up $1 million to match a like contribution by Cleveland taxpayers to smooth the way still further for jet planes at the local airports—this being in addition to a $4 million project already agreed upon. And Cleveland couldn't think of lightening the tax load on the railroad passenger terminal.

In New Jersey the NY Port Authority is trying to take over a fine rural residential area for a gigantic jet terminal —and the old-fogey citizens are kicking. They do not realize that superhighways and airports represent Progress (capital P) and historical buildings, churches, homes, farms, factories, schools—everything else—is strictly secondary.



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saves valuable time in bulk handling of powdered or dry granulated cargoes

Pittsburgh's POLYCLUTCH Lining is a completely new kind of interior coating for covered hopper cars that gives unusual serviceability. It permits more efficient and economical handling of bulk shipments of dry foods and granular or powdered products.

• **This important development** in covered hopper car lining is applied by either hot or cold spray in alternate coats of white and blue, which dry to a hard adhesive film.

• **Unloading is faster** and easier. Because of the high density and non-porous quality of POLYCLUTCH, dry, powdered or granulated ladings will not cling to its smooth surface.

• **As POLYCLUTCH is non-toxic,** odorless and tasteless, foodstuffs are not contaminated. Cleaning and sanitation problems are reduced.

• **POLYCLUTCH also cuts maintenance costs.** Its toughness and flexibility enable it to withstand abrasion, impact and repeated cleaning. Flour mill fumigants will not harm it. It has high resistance to the corrosive effects of acids, alkalis, mold, mildew and humidity.

• **Besides having been thoroughly tested** in the laboratory, POLYCLUTCH Lining has been in service since 1954 on thousands of hopper cars all over the country and has earned an enviable reputation for thrifty service. It will pay you to investigate its money-saving benefits on your bulk carriers. Send coupon below for a detailed description of this new kind of lining and how to apply it for best results.

*POLYCLUTCH Lining is approved by the U.S. Food and Drug Admin.

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Pittsburgh Plate Glass Company
Industrial Finishes Division
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Gentlemen: Please send me your new booklet containing complete information about POLYCLUTCH LINING.

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Company_____

Address_____

City_____ State_____

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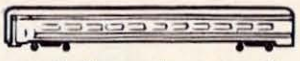
new Budd COACH SLEEPERS

get new business, pay off fast

PASSENGERS LIKE THEM



Private sleeping accommodations at coach fares plus a small room charge make a big hit with budget travelers. So big, in fact, that new Budd Coach Sleepers have been averaging 80% occupancy, ever since they were introduced.

Each compartment has a comfortable window seat, private personal facilities, baggage space, and restful full-length bed. Cribs are provided for infants. Added space charge is less than the cost of a hotel room. No wonder the new Budd Coach Sleepers are attracting new business on leading lines from coast to coast, whether they are called "Slumbercoaches" or "Sleepercoaches"!

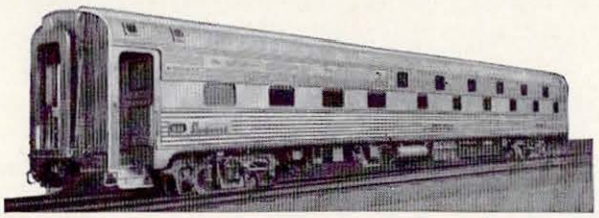
RAILROADS LIKE THEM

Experience on the B&O and Burlington railroads indicates that the cars earn their purchase price within two to three years. The cars bring in passengers who might travel by other means—or might not travel at all. Each Coach Sleeper can accommodate 40 persons, as compared to the 22 passengers in a standard sleeping car.

Coach Sleepers give railroads a way of upgrading present coach travelers, and attracting new ones. Complete comfort, convenience and privacy have brought new revenue, wherever Budd Coach Sleepers are in service.

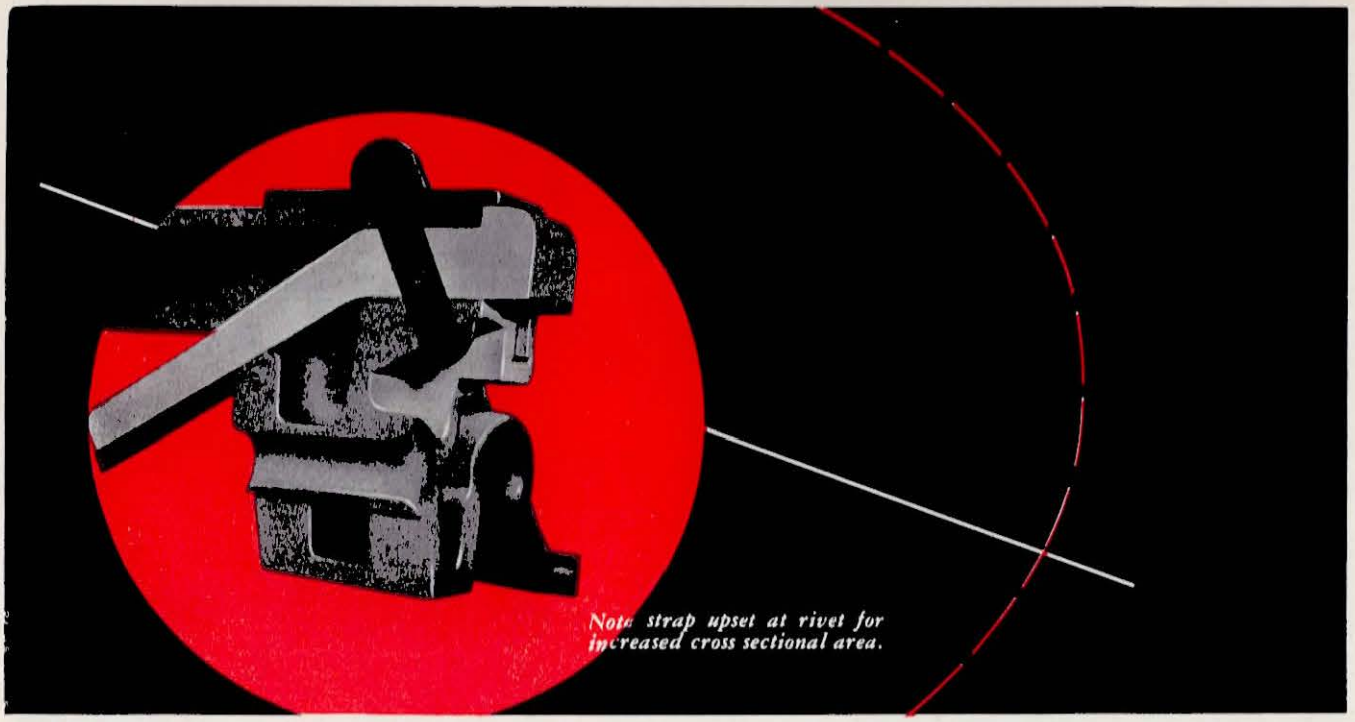
Write today for full information and statistics.

Complete comfort and privacy . . . for mother and baby, too. When compartment is readied for the night, toilet and wash basin are accessible.

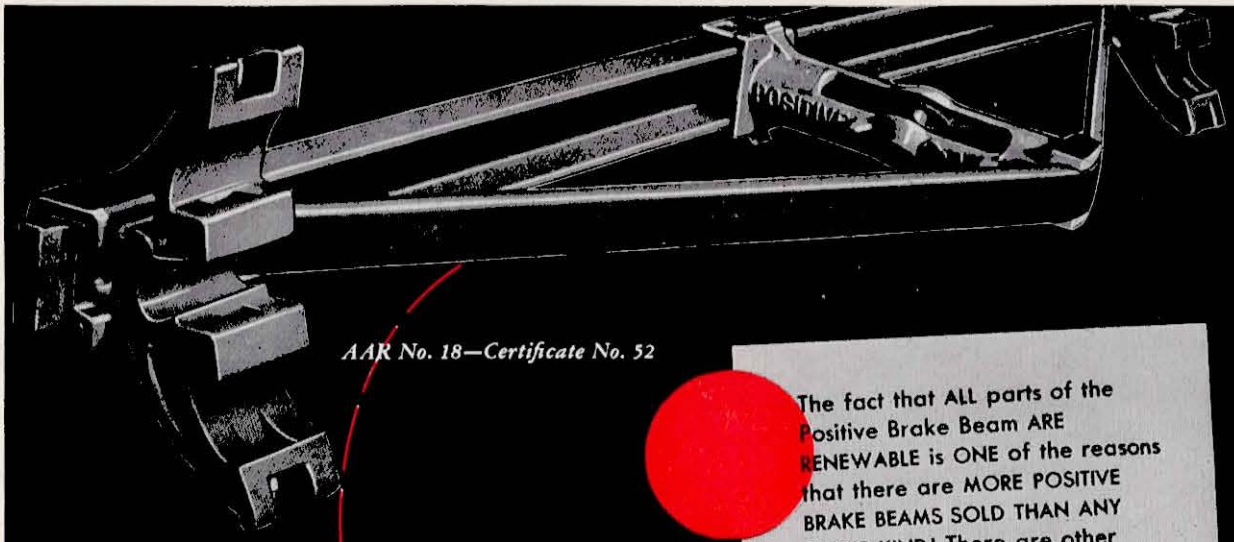


RAILWAY **Budd** DIVISION

THE BUDD COMPANY, PHILADELPHIA 15, PA.



ALL *Positive* BRAKE BEAM PARTS ARE RENEWABLE



AAR No. 18—Certificate No. 52

The fact that ALL parts of the Positive Brake Beam ARE RENEWABLE is ONE of the reasons that there are MORE POSITIVE BRAKE BEAMS SOLD THAN ANY OTHER KIND! There are other reasons, too . . . Design and *dependability* mean higher efficiency for operating men—lower cost on repairs and replacement. The *real* reason is: *real reasoning!*

CHICAGO RAILWAY EQUIPMENT CO.

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1959 REVIEW OF RAILWAY OPERATIONS

By J. ELMER MONROE, Vice President, Association of American Railroads and Director, Bureau of Railway Economics

Highlights of the Year

After a favorable start, results of operations in 1959 were disappointing to the railroads.

The year began with strong indications that pre-recession levels of freight traffic and net earnings would soon be restored. As the year progressed, however, three principal obstacles were encountered in the path leading to that desired goal.

The first obstacle arose in May when Congress passed, and the President ultimately signed, a bill amending the Railroad Retirement Act, the Railroad Retirement Tax Act, and the Railroad Unemployment Insurance Act. The amendments went into effect on June 1, 1959, and will cost the railroads considerably more than $100,000,000 a year.

The second obstacle came in mid-July when steel workers left their jobs while awaiting agreement on a new labor contract. This proved to be the longest steel strike in history. Railroads lost about 2,500,000 carloads of freight during the strike, equivalent to approximately $600,000,000 in operating revenues.

The third principal obstacle encountered by railroads in 1959 in their efforts to regain the pre-recession level of earnings was the fu rther increase of 3 cents an hour in wage rates, effective November 1, at an annual cost of about $60,000,000.

All railroad labor organizations filed demands in 1959 for further wage increases and additional fringe benefits. They aggregate in proposed new costs to the railroads something like three-quarters of a billion dollars per year. The railroads propose to make certain basic changes in the working rules of operating employees. These matters were still in negotiation at year's end and the outcome cannot be predicted.

The principal results of railroad operations in 1959 were as follows:

- Carloadings of revenue freight totaled about 31 million cars, up by 2.5% compared with 1958.
- Ton-miles of revenue freight approximated 575 billion, an increase of about 4% over the preceding year.
- Passenger-miles amounted to some 22.2 billion, down roughly 5% from 1958's total.
- Net railway operating income for the year is estimated at $755 million, not quite equal to the $762 million earned in 1958. The rate of return on net property investment in 1959 was about 2.74%, also slightly below the 2.76% earned in 1958.
- Net income after charges in 1959 was about $580 million, down some $22 million from 1958.

1959 REVIEW OF RAILWAY OPERATIONS

On the legislative front, while the Congress had before it a considerable number of bills of direct interest and concern to railroads, the only important enactments were (1) the bill amending the Railroad Retirement and Unemployment Insurance Acts, previously referred to, and (2) the bill reducing the excise tax rate on passenger travel from 10% to 5%, effective July 1, 1960. All transport bills not acted upon by the Congress in 1959 carry over into the 1960 session.

The year 1959 was the first full year of railroad operation since removal of the excise tax on freight transportation and enactment of the Transportation Act of 1958. While the measures of relief to the critical railroad situation provided for in those legislative steps were helpful, they fall far short of coming to grips with the basic problems of the industry.

By reason of the 1958 Act, the elimination of unprofitable passenger trains was speeded up, considerable activity was stimulated in the field of competitive ratemaking, and a few loan guarantees were made to a number of railroads for capital improvement and maintenance work. However, the more basic issues involved in preparation of a modern transportation policy were left for further study with the Senate Committee on Interstate and Foreign Commerce.

There was considerable activity in 1959 in the field of railroad consolidations and mergers. The Norfolk & Western and the Virginian were merged and began operations as a unit on December 1, 1959. Merger of the Charleston & Western Carolina into the Atlantic Coast Line was approved by the Interstate Commerce Commission in December. The proposed merger of the Erie and the Delaware, Lackawanna & Western was progressed to the point where ICC hearings had been concluded.

There were no general freight rate or passenger fare increases in 1959. Rather, railroads continued to experiment with incentive adjustments of one kind or another in specific rates and fares with the view of holding or regaining some competitive traffic.

Western railroads were authorized to increase mail pay rates by 5.6%, effective July 1, 1959. The Railway Express Agency increased rates on LCL express shipments by 25 cents per hundred pounds (35 cents in Eastern and Mountain Pacific regions), effective September 1, 1959. On the other hand, the Agency extended in a number of respects its system of incentive rates on shipment aggregations of 300 pounds or more.

Piggyback traffic continued to expand in 1959 at a rapid pace, although the aggregate carloadings of such traffic do not yet bulk large in the total for all commodities. There has been a great deal of experimentation by railroads in this field. Although progress is being made, standardization of equipment and services has not yet been achieved.

With the steel workers back on the job during the final eight weeks of 1959, the year ended as it began with all economic trends pointing sharply upwards.

Assuming that labor problems are satisfactorily resolved, railroads look forward to a good traffic year in 1960. Speculations as to the state of railroad finances in 1960 must await settlement of the pending wage increase demands and resolution of the proposed work rule changes.

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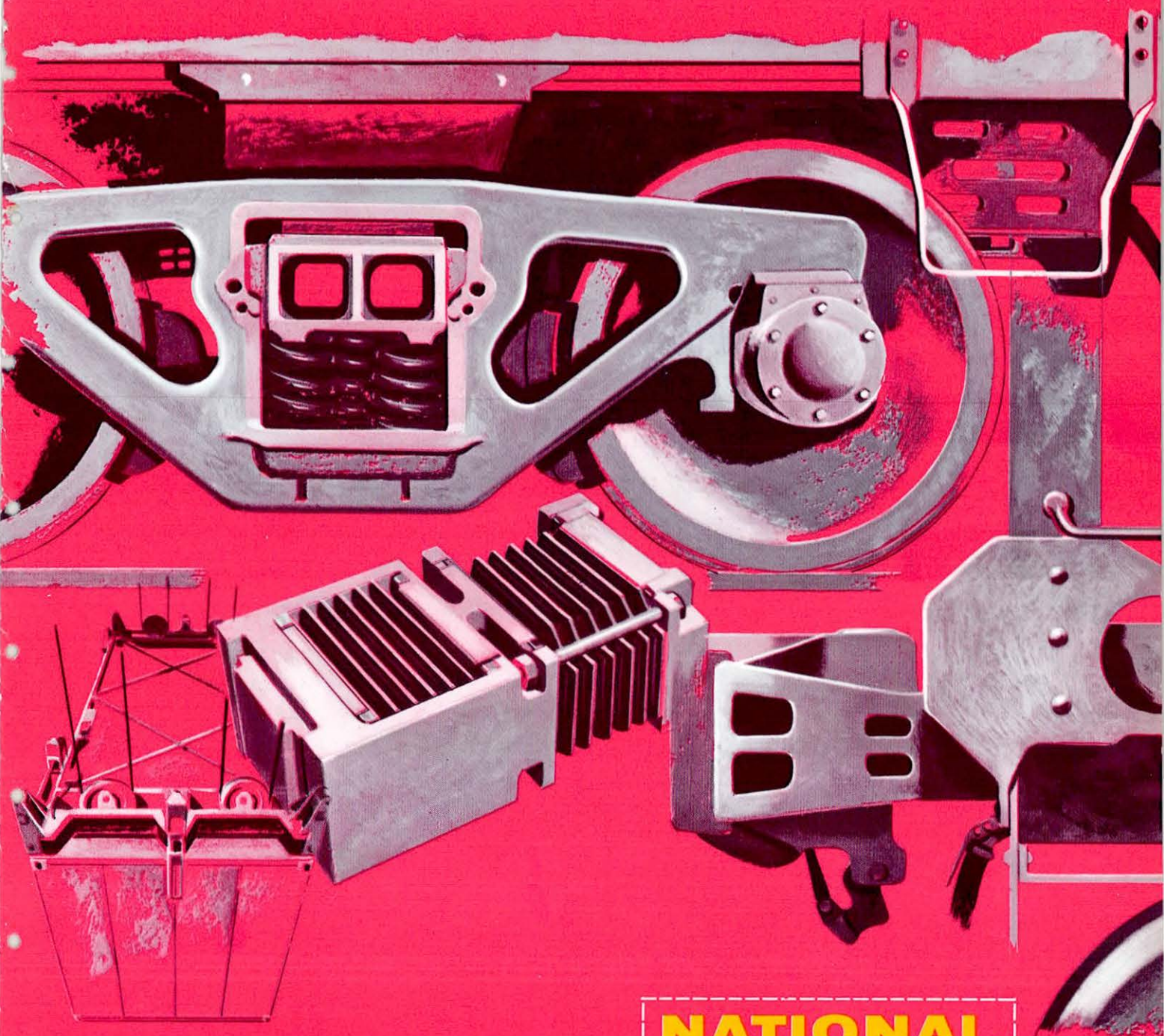
ANNUAL REPORT

TO THE RAILROADS

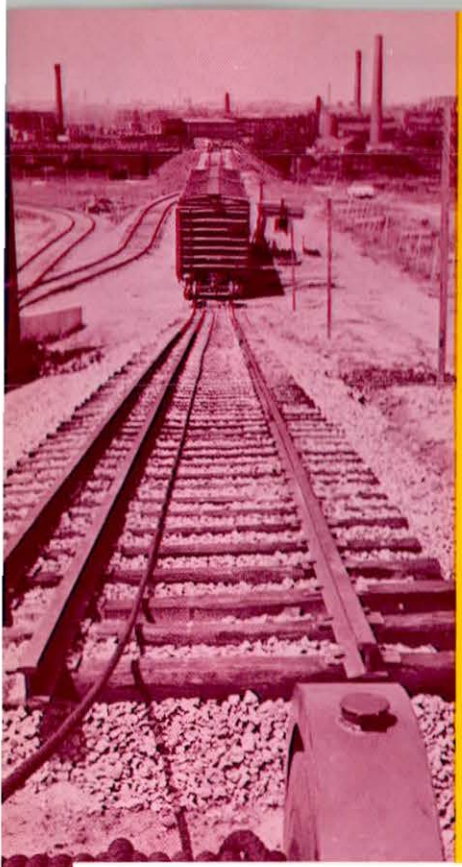


PRODUCTS AND SERVICES

NATIONAL
MALLEABLE AND STEEL
CASTINGS
COMPANY

Transportation Products Division
Cleveland 6, Ohio

In Our 92nd Year of Service to Transportation



IMPACT AND DRAFT GEARS

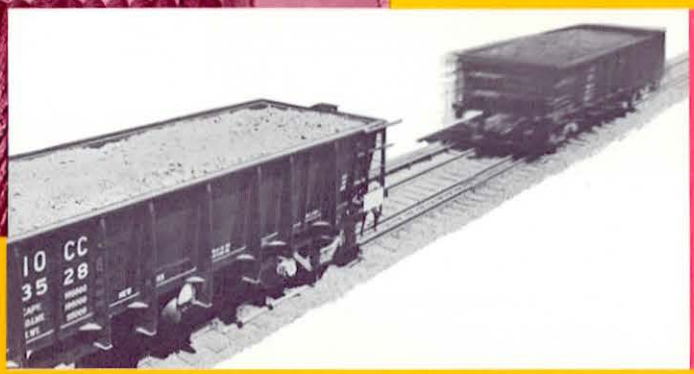
Conclusions After 5 Years of Car Impact Tests

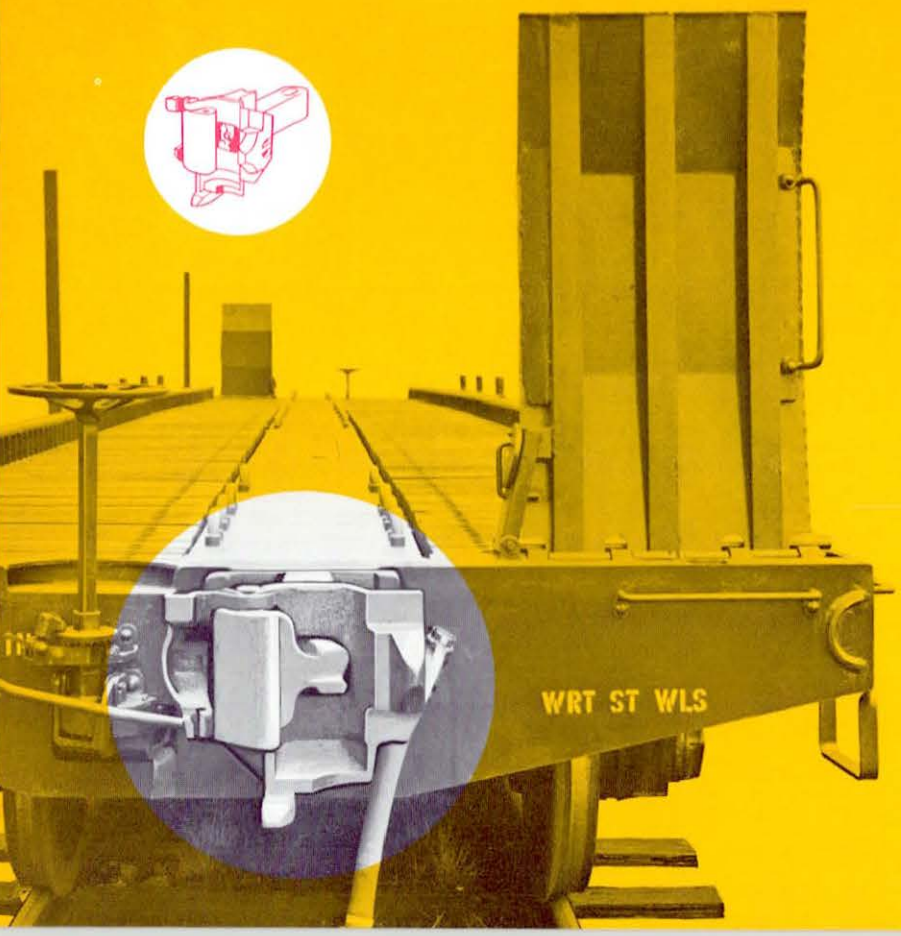
Data obtained from the 5-year impact tests have been compiled, analyzed and studied. These data were presented, in the form of a comprehensive paper*, to the ASME at the Society's annual meeting in Atlantic City in December, 1959. The report, which includes test data on all types of draft gears and sliding undersills, has received much favorable comment for the frankness of its conclusions and for the light it sheds on the important problem of car impacts.

These basic conclusions are drawn by the report:

1. Conventional tests of draft gears do not necessarily indicate their ability to protect car structures or lading.
2. Draft gears having conventional operating principles, including 36-inch pocket gears, cannot be expected to provide important benefits to lading.
3. Cushioning requirements are different in cars that carry merchandise from cars carrying bulk lading.
4. Only sliding center sill cars with adequate cushioning can be expected to give really adequate protection to easily damaged boxcar lading.

During 1959 several of National's new and still-to-be-introduced draft gears were put through their final testing, while initial service tests were begun on a modern concept in car cushioning.





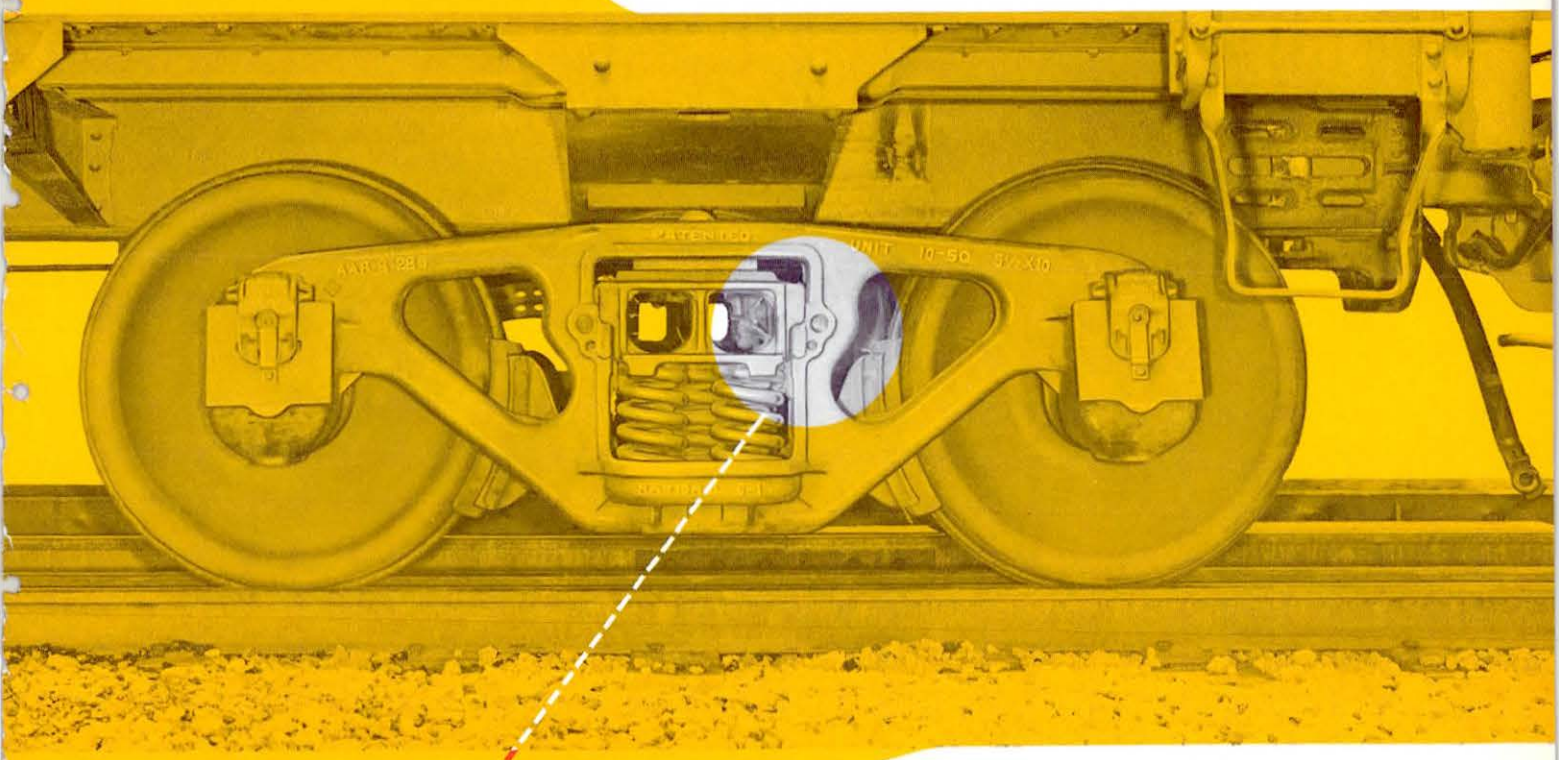
COUPLERS AND COUPLER SERVICE

During 1959, National service engineers paid numerous visits to various railroad installations regarding coupler applications and coupler service conditions. In addition, National's Technical Center saw practically monthly meetings of the Mechanical Committee of the Standard Coupler Manufacturers regarding studies which have resulted in improved and strengthened Type E and Type F coupler shanks and contour modifications. Other Committee projects were initiated during the year for the improvement of couplers that would provide longer service life under both normal and abnormal conditions.

Also, during the past year, National shipped its 13,000,000th knuckle-type automatic coupler.

*"*Impact as Related to Freight Car Lading Damage*," W. E. Baillie, National Malleable and Steel Castings Company (ASME Paper No. 59-A-249).

FREIGHT CAR TRUCK ACTIVITIES



The thirtieth C-1 truck inspection was performed in 1959. With very few exceptions, all inspections were performed on the actual properties of railroads using National C-1 trucks. Twenty-five different railroads were visited, with railroad personnel present to witness the inspections. C-1 trucks used in every type of car and under every possible type of service have been checked in this continuing series of investigations.

In each case, the inspections have borne out National's long-time contention: That the basic, unchanged design of the C-1 friction control mechanism provides superior riding qualities with long wear life of component parts.

The response of railroad men to the witnessing of these inspections and to the analysis of the inspection reports is evident in the increasing number of National C-1 truck orders.

RESEARCH FOR RAILROADS AND INDUSTRY

Periodically during 1959 quality control tests were run on National specialties to assure the highest standards of service operation. Numerous other test programs were also conducted on new products for all divisions of National.

In addition to National's product research and testing programs, a number of projects were handled for individual railroads and industries. Among these tests were: Shakeout fatigue tests on 70-ton hopper cars, ore drop tests on a new design of 70-ton hopper car supervised and run by Technical Center personnel on the client's property, impact tests on inflatable dunnage, on rubberized liquid containers, and on boxes of glass bottles using different types of paper separators. These programs were performed under individual contracts. National invites railroads and other industries to avail themselves of the facilities of the Technical Center.

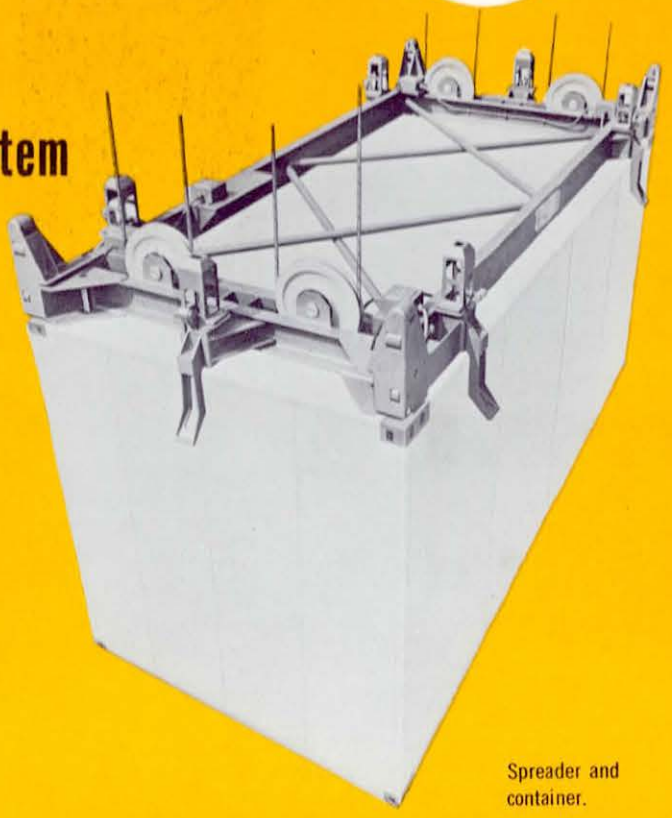
NATIONAL SPEEDLOADER SYSTEM

A New Cargo Container Handling System Introduced in 1959

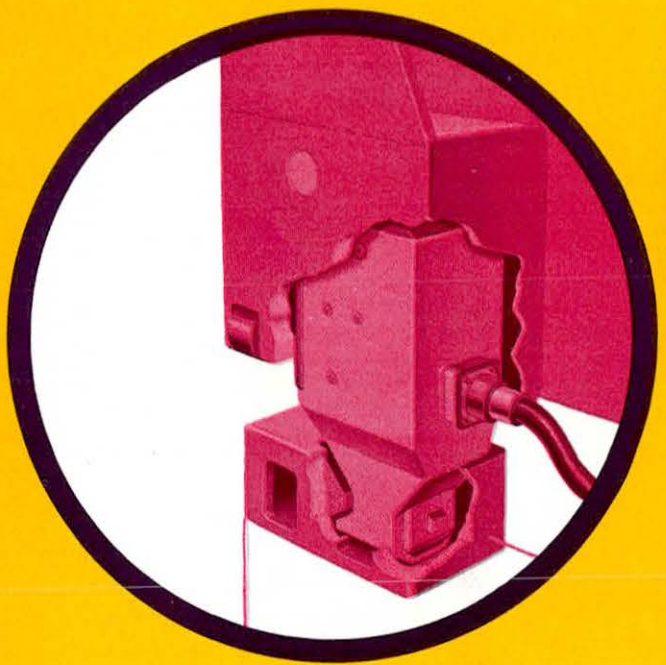
The newest of National's products for the transportation field, it is the first complete fully automatic cargo container handling system to be offered to all carriers and shippers.

Adaptable to any container, crane or vehicle, National supplies only the essential Speedloader components to commercial producers of these items. That means users can purchase their cranes from any crane manufacturer, their containers from any container manufacturer.

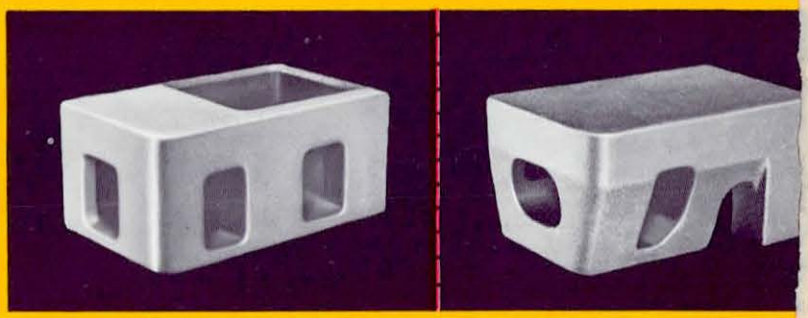
Components comprising the system include: Spreader for crane complete with coupler-latches and wired for automatic operation, top and bottom container corner castings, and anchor castings for fastening containers to flatcar, truck, barge or ship deck.



Spreader and container.



The principle involved, that of locking the container to the crane spreader, is the same principle as that of the railroad coupler except that the coupler-latch has a rigid knuckle which locks into a recess in the container top corner casting.



Container top corner casting.

Container bottom corner casting.

NATIONAL MALLEABLE AND STEEL CASTINGS COMPANY

Established 1868

Transportation Products Division
Cleveland 6, Ohio

International Division Headquarters
Cleveland 6, Ohio

CANADIAN SUBSIDIARY
National Malleable and Steel Castings Company of Canada, Ltd. Toronto 2-B, Ontario

STEERED TO PROGRESS P R I MEMBER

COUPLERS · YOKES · DRAFT GEARS · FREIGHT TRUCKS · JOURNAL BOXES
NATIONAL SPEEDLOADER CONTAINER HANDLING SYSTEM

A-749A

 (Continued from page 32)

Traffic Trends

Like virtually all other indicators of economic activity in the United States, the trend of railroad freight traffic in 1959 was dominated by the effects of the prolonged work stoppage in the steel industry. The strike began July 15, 1959, following a two-week extension of the steel workers' contract beyond its June 30 expiration date. It continued for 116 days through November 7, 1959, when a Taft-Hartley Act injunction was upheld by the Supreme Court. The strike shut down all but a few of the nation's steel mills, stopped the movement of iron ore for most of the remaining shipping season, and substantially reduced the production and shipment of other commodities.

Estimates indicate, after allowing for above-normal shipping before and after the strike, that the 1959 steel strike reduced railroad traffic for the year by some 2.5 million carloads, or about 50 billion ton-miles.

For the first half of 1959 the trend of railroad freight traffic was strongly upward. Ton-miles were up 8% in the first quarter and 17% in the second quarter over the corresponding 1958 periods. Carloadings for the first 28 weeks — the prestrike period — were 13% ahead of the previous year, and it appeared that continuation of the favorable trend would bring railroad freight traffic well along the road toward recovery from the 1957-1958 recession.

As shown by Table 1, however, traffic losses in the year's last half wiped out most of the earlier gains and left the 1959 totals at relatively low levels. Carloadings for the year totalled 30,990,638, up only 2.5% over 1958. Revenue ton-miles, presently estimated at 575 billion for 1959, were up 4.2% over the previous year's total, but were 7% below the 1957 figure.

Passenger traffic declined in 1959 for the eighth consecutive year, falling to a total of about 22.2 billion, nearly 5% below the 23.3 billion passenger-miles of 1958. As in other recent years, the greatest loss was registered in sleeping and parlor car travel, the least in commutation service. Coach traffic, other than commutation, was about 4% less than in 1958, but this class of travel is still substantially heavier in terms of passenger-miles than it was 20 years ago.

Analysis of freight carloadings by commodity groups, as shown in Table 2, reveals that only three of the eight groups exceeded the 1958 loadings.

The miscellaneous group, which in-

(Continued on page 42)

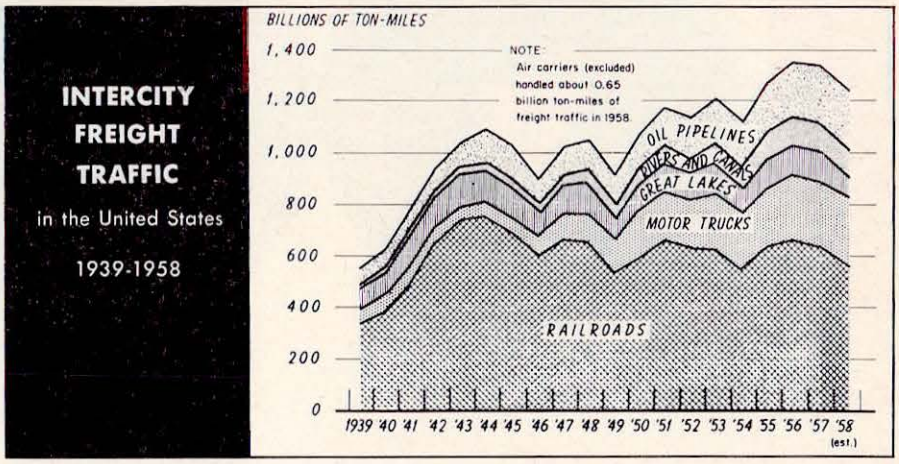


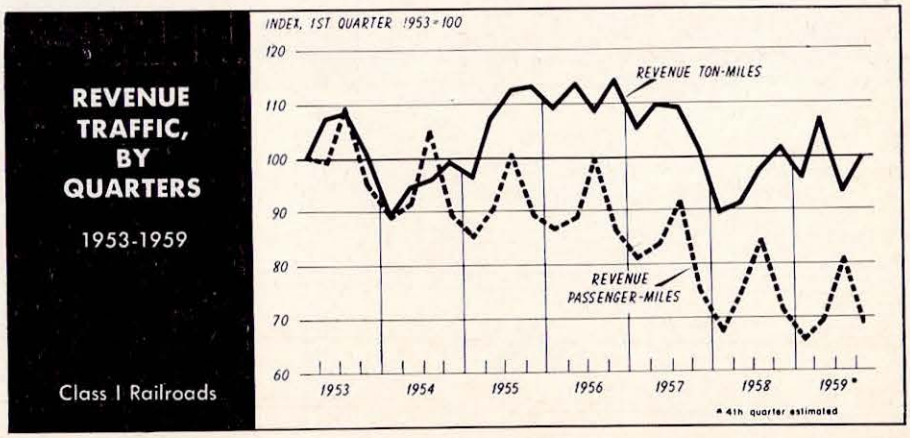
Table 1: Comparative Traffic Summary: 1950-1959

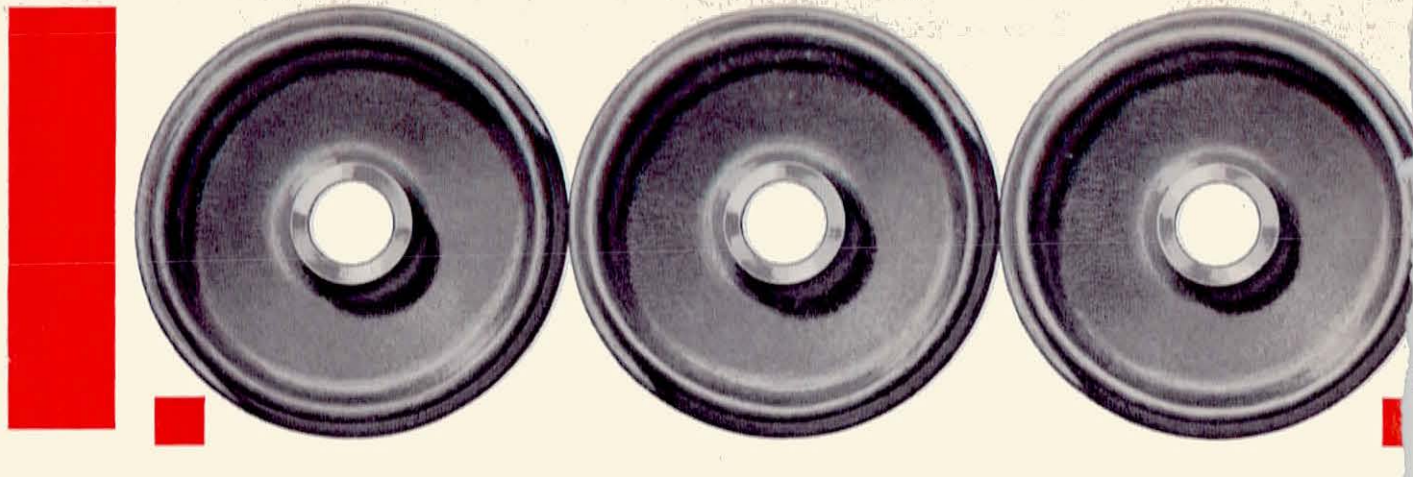
Year	Revenue carloadings (thousands)	Revenue ton-miles (millions)	Revenue passenger-miles (millions)
1950	38,903	588,578	31,760
1951	40,499	646,620	34,614
1952	37,985	614,754	34,010
1953	38,216	605,813	31,655
1954	33,915	549,259	29,286
1955	37,636	623,615	28,526
1956	37,845	647,077	28,185
1957	35,500	618,194	25,884
1958	30,226	551,667	23,269
1959	30,991	*575,000	*22,200

*Partially estimated.

Table 2: Carloadings by Commodity Groups, 1959 vs. 1958

Commodity Group	Per cent of total	Carloadings in 1959 (thousands)	Increase over 1958 Carloadings (thousands)	Per cent
Miscellaneous	52.5	16,279	1,039	6.8
Coal	17.5	5,432	d 90	d 1.6
Grain	8.9	2,751	4 122	d 4.3
Merchandise LCL	6.8	2,115	d 217	d 9.3
Forest Products	6.6	2,049	194	10.4
Ore	5.3	1.655	d 99	d 5.7
Coke	1.3	410	d 68	19.9
Livestock	1.0	300	d 7	d 2.4
Total	100.0	30,991	764	2.5





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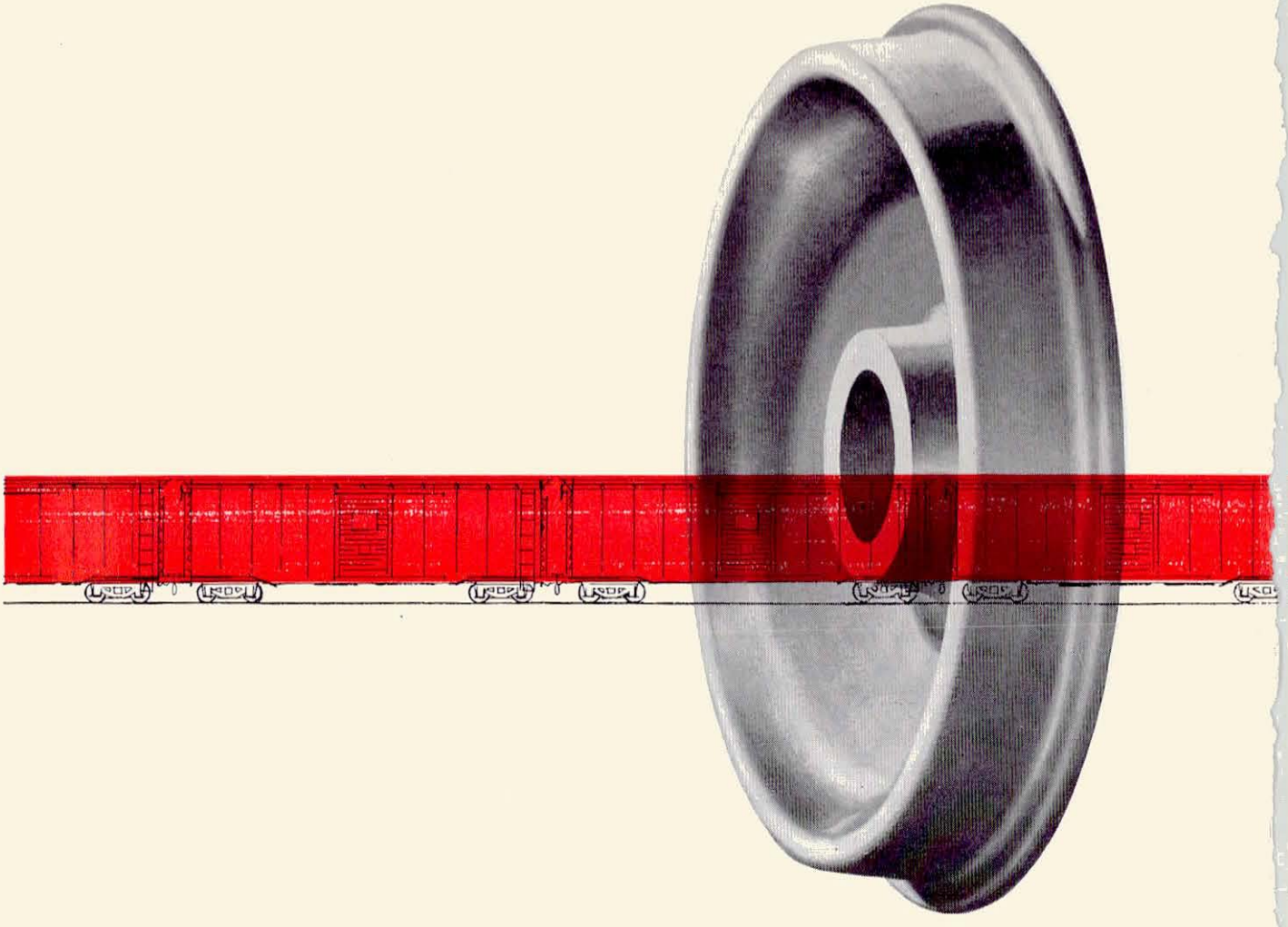

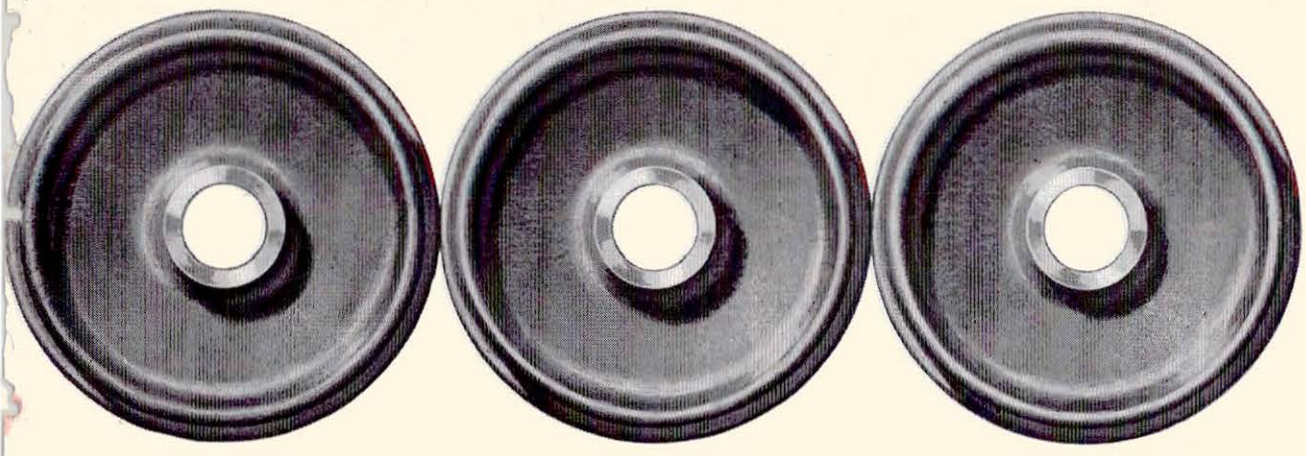

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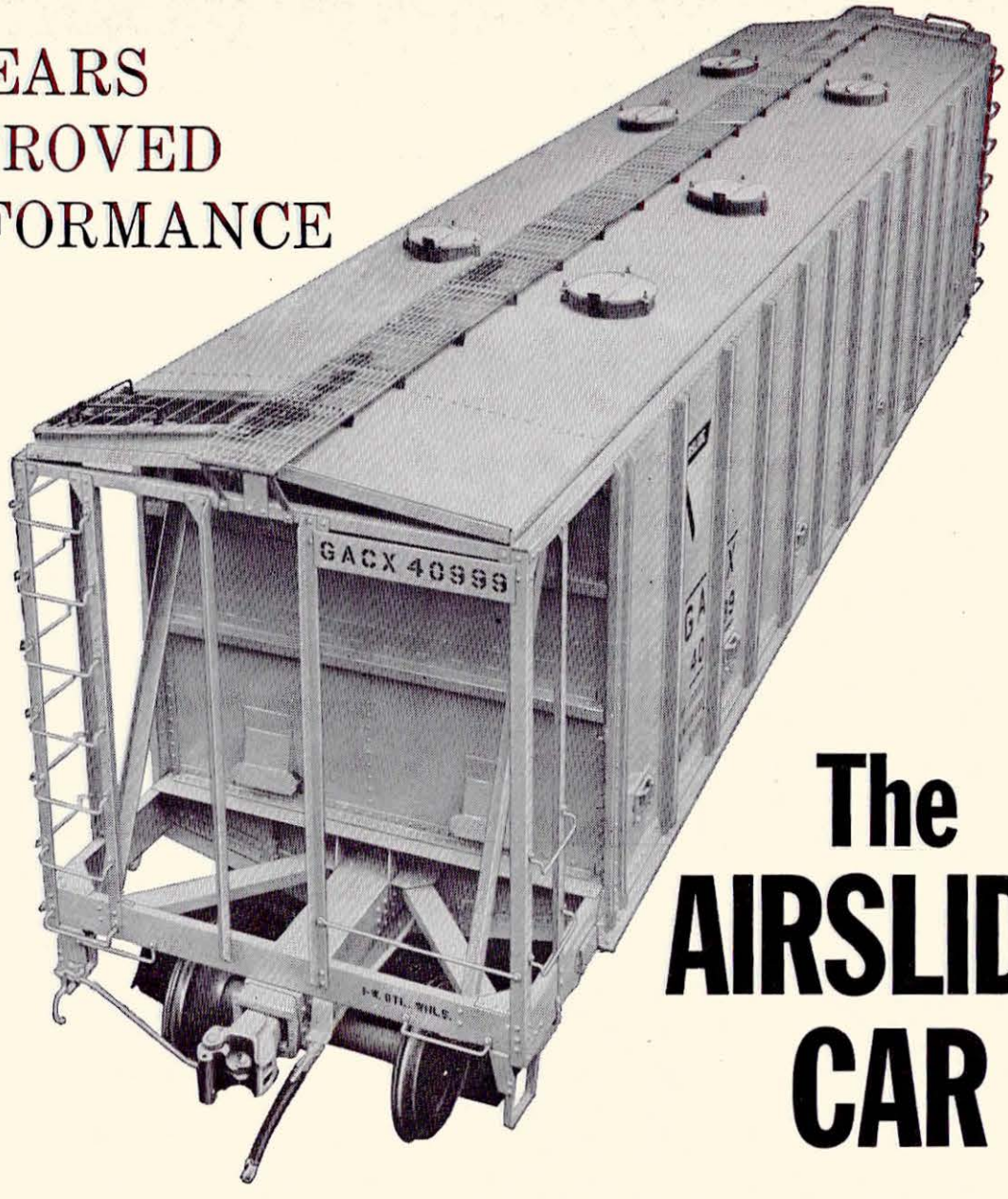

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 (*Continued from page 37*)

cludes steel and other manufactured products, and accounts for over one-half of all carloadings, increased by more that one million cars over the 1958 total, but remained below the level of any other year since 1940. The forest products group, which rose by 10.4% in 1959 over 1958, was one of the two commodity groups which surpassed their 1957 totals. The other was grain and grain products, and the loadings in this group, while off 4.3% from the all-time record set in 1958, exceeded all other years on record.

Loadings of LCL freight and livestock continued their postwar downward trends to new all-time low levels.

The loading of highway trailers on flat cars, commonly known as TOFC or piggyback traffic, continued its dramatic growth in 1959. There were 415,156 cars loaded in this service in 1959, an increase of 50% over the 276,767 cars loaded in 1958. Corresponding totals for earlier years were 249,065 in 1957, and 207,783 in 1956. At the close of the year, 50 railroads were reporting loadings of this type of traffic.

Rates and Fares

While there were no general freight or passenger fare increase cases pending before the Interstate Commerce Commission in 1959, there was considerable activity during the year in the broad field of railroad rates and fares. Mostly, such activities had to do with adjustments of one kind or another in freight rates, with the view of holding or regaining competitive traffic. However, in addition, there were adjustments, some upwards, some downwards, in passenger fares, mail pay and express rates.

Freight Rates. Some years ago railroads set up a number of traffic research groups with the purpose of finding those areas where freight rate adjustments could profitably be made, to the advantage both of shippers and the railroads themselves. The research groups have been quite successful in their work, although the effectiveness of proposed rate changes has been materially slowed by the time-consuming regulatory procedures involved in competitive rate making.

Some of the more important rate adjustments effected or awaiting ICC action in 1959 were:

Paint Case. This was the first case to be brought before the ICC under the so-called rate-freedom provisions of the Transportation Act of 1958. Eastern railroads, having lost all but a small fraction of the paint traffic in their territory, proposed new rates thereon substantially below competing truck rates but adequate to produce a return over and above rail out-of-pocket costs. The rates also had an incentive feature whereby they were subject to a minimum weight of 30,000 lb, with a reduction of about 10% below the base rates on the next 30,000 lb, and a reduction of about 25% on weights in excess of 60,000 lb.

The rates were originally filed to become effective October 1, 1958. However, upon protest by certain motor carriers, the ICC suspended the rates subject to investigation as to their lawfulness. The seven-month suspension period expired May 1, 1959, before the Commission had completed its deliberations, and the rail carriers voluntarily extended the proposed effective date of the rates to October 31, 1959.

The Commission's decision — dated August 27 and made public September 4—found the proposed rates to be lawful. However, Commissioner Webb, in a concurring opinion, pointed out: "I do not see how this report sheds any light on the meaning of Section 15a(3) except possibly for carriers and shippers of paint in official territory at the rates proposed. For more than a year a debate has been raging concerning the extent, if any, to which the rule of competitive rate making was changed by the Transportation Act of 1958. That vitally important question is left unanswered."

On the other hand, the Commission did point to the avowed purpose of the rates (namely, to regain paint traffic and thereby maximize net earnings) and noted the railroads' contention that: "This is a normal and lawful purpose, that the proposed rates will yield returns above their out-of-pocket costs; that the recovery of some of this traffic from the motor carriers and other competitors is a normal incident to fair competition; and that the express 'shall not' in Section 15a(3) of the Interstate Commerce Act means that under these conditions, where rates are compensatory and non-discriminatory, the Commission may not prevent their establishment."

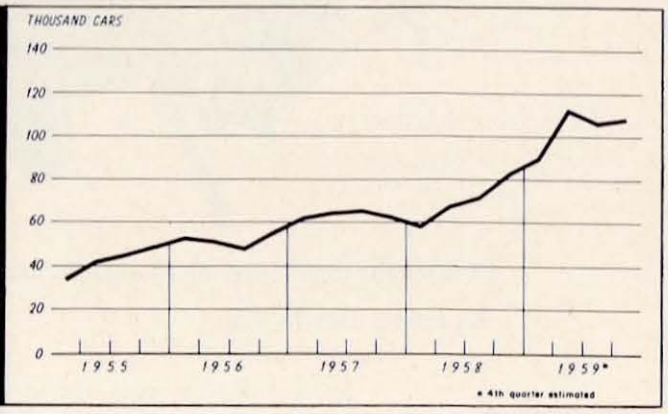
Section 15a(3) states, in part, that "rates of a carrier shall not be held up to a particular level to protect the traf-

(*Continued on page 46*)

REVENUE CARLOADINGS OF T-O-F-C TRAFFIC, BY QUARTERS

1955-1959

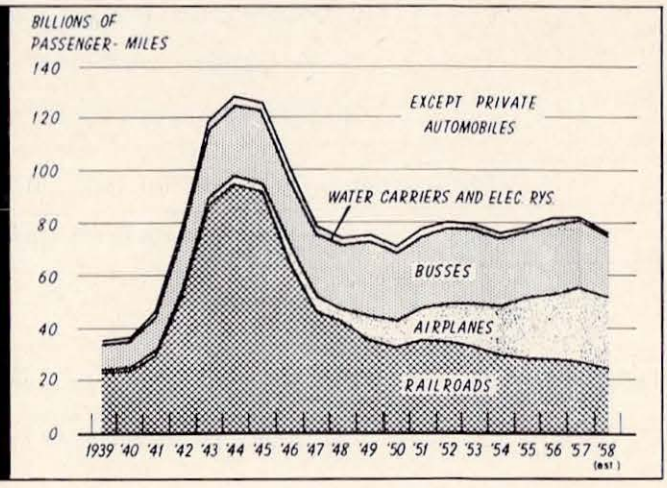
Class I Railroads



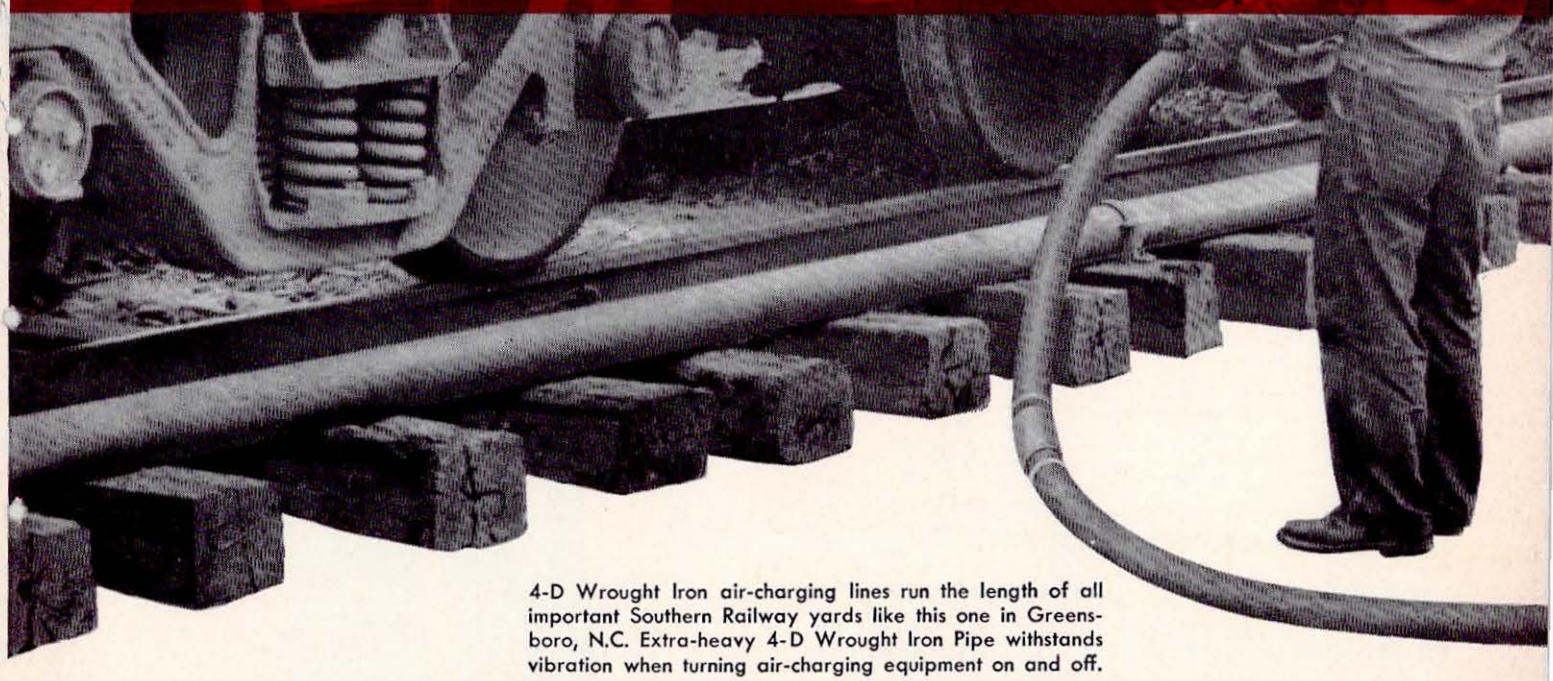
INTERCITY PASSENGER TRAFFIC

In the United States

1939-1958



SOUTHERN RAILWAY SPEEDS UP CAR CHARGING— 4-D WROUGHT IRON PIPES THE AIR



4-D Wrought Iron air-charging lines run the length of all important Southern Railway yards like this one in Greensboro, N.C. Extra-heavy 4-D Wrought Iron Pipe withstands vibration when turning air-charging equipment on and off.

Vibration. Shock. Fatigue stress. Corrosion. All these factors *could* take a terrific toll in maintenance and repair costs of compressed air line facilities.

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The Southern reports that trains move as much as forty-five minutes to an hour and a half faster since their large-scale extension of compressed air line facilities. Service to the shipper, as a result, is greatly improved.

Instead of charging a long freight train from one end only, the Southern extends its compressed air lines and makes air available at thousand foot intervals throughout the yard. This significantly speeds charging of trains with air.

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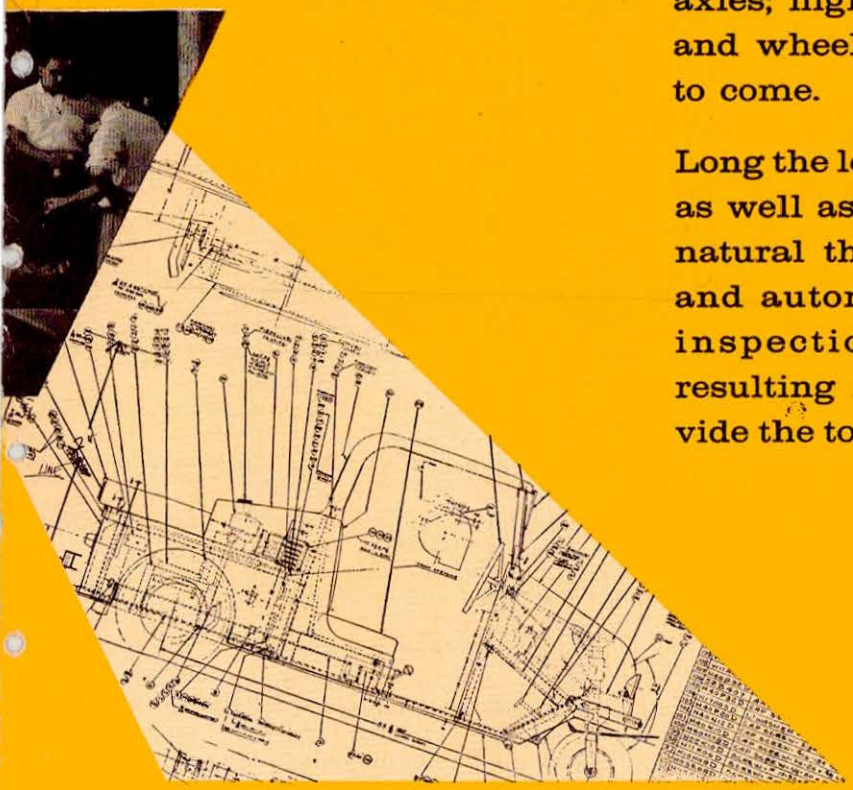
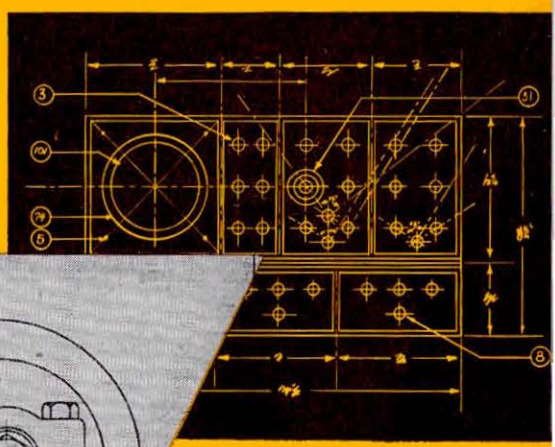
by experience . . ."

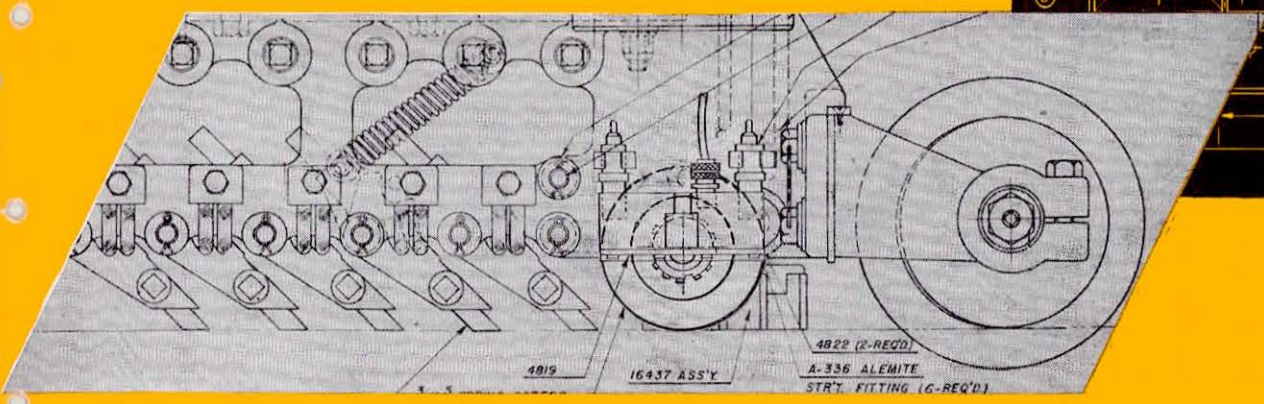
. . . experience from pioneering and leadership in nondestructive testing which makes possible, this year, greatly expanded services to the railroads.

Programs already under way in research and development include: end-to-end rail testing through the addition of ultrasonics; automated testing systems for freight car axles; high-speed inspection of rails, axles and wheels in the steel mill . . . and more to come.

Long the leaders in ultrasonic development, as well as induction rail testing, it is only natural that Sperry would bring together and automate these two nondestructive inspection systems. New equipment resulting from this combination will provide the tools for greater testing economies.







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fic of any other mode of transportation, giving due consideration to the objectives of the national transportation policy declared in this act."

Jumbo Tank Car Rates. Substantial reductions below the rates applicable on ordinary tank car shipments were offered by Eastern railroads to shippers using the so-called "jumbo" tank cars having capacities up to and even beyond 20,000 gallons each. At the time these rates were proposed a year ago, only one such car was in existence. Several hundred of the cars are now in use or on order following actual application of the new rates. This is only one illustration of rates of this kind being made effective in all territories for the purpose of regaining traffic on a profitable basis.

Agreed Charges. In the broadest sense of the term, agreed charges involve many variations in rate-making practices. Some of these variations are reflected in what are generally known as the "guaranteed rate," the "contract rate," the "volume-guaranteed rate," the "incentive rate," the "multiple car rate," and possibly others.

The so-called conventional type of agreed charges is that which has been in use in Great Britain and Canada for a great many years, whereby in return for a reduced rate the shipper agrees to give the participating carriers a stated percentage of his total annual movement of the covered commodities between certain specified points.

The first case of this particular kind to come before the Commission was the proposal of the Soo Line for a guaranteed rate on pipe and tubing, steel or wrought iron, from Sault Ste. Marie, Ont., to Chicago and points taking the same rate, and for movement beyond. Such guaranteed rate applies only when 90% of the tonnage for local delivery to Chicago and to points taking the Chicago rate, or for movement beyond, is shipped by railroad. The proposed rate was suspended by the Commission on April 10, 1959. Hearings have been held, briefs have been filed, and the carriers are awaiting the examiner's proposed report.

In a similar case, the New York Central filed reduced rates on carpeting and rugs moving from Amsterdam, N.Y., to Chicago, conditioned upon the shipper or receiver agreeing to tender for transportation 80% of its traffic in a 12-month period. That proposal has also been suspended and is being investigated by the Commission.

In the so-called Consolidated Edison case (coal to the New York Harbor area), railroads proposed a rate reduction of 50 cents per ton, effective April 1, 1959, on all tonnage over a specified amount, provided that the annual aggregate reached a higher specified tonnage. The Commission refused to suspend those rates but did institute an investigation of their lawfulness. Hearings have been completed, but the examiner's report has not yet been issued.

Western railroads have been successful in the establishment of multiple-car rates on molten sulphur (minimum of 50 cars in one shipment) and on manganese ore (minimum of 40 cars in one shipment).

The foregoing examples of these particular kinds of new rates by no means cover the entire field. They are detailed here solely as illustrations of what the railroads are doing in this area.

Incentive Rates. These are, perhaps, the most popular kinds of rate adjustments, whereby lower or reduced rates are supplied over an entire shipment when cars are loaded up to certain specified weights over the tariff minimum weights, or on the excess over a specified weight per car. There have been many such rate adjustments in all territories. They serve not only to hold and to regain competitive traffic, but also to reduce rail costs per ton of freight handled, and, importantly, to conserve car supply.

Other Adjustments. There have been many other adjustments in freight rates to meet particular competitive situations and to accommodate the rapid development of piggyback traffic. Some of these have been merely the conventional type of rate reductions without accompanying conditions of one kind or another. Others have been variations of the illustrations given above.

Passenger Fares. There were no general increases in basic passenger fares in Eastern and Southern territories. The Baltimore & Ohio extended its experimental reduced round-trip coach fares to apply to the entire Baltimore-Washington - Cincinnati - Louisville-St. Louis area. These fares, constructed at one and one-third times the one-way fare, have a time limit of 30 days from the date of ticket purchase.

Commutation fares in the New York and Chicago areas were increased by a number of railroads, and there were several other fare adjustments of comparatively negligible significance by Eastern railroads. Certain coach fares on a number of large Western railroads were increased 5%, effective July 25, 1959, while special reduced fares designed to attract traffic were either extended or introduced for the first time in 1959 by certain Western railroads. Also, there was further experimentation in 1959 with low-priced meal service in railroad dining cars.

Mail Pay. Effective July 1, 1959, mail pay rates on Western railroads were increased by 5.6%, thus bringing the level of such rates up to those in effect in Southern territory. An application of Southern Region roads for reexamination of their mail pay rates was filed with the Commission in December 28, 1959.

Express Rates. A new Standard Express Operations Agreement between Railway Express Agency, Inc., and express-carrying railroads was signed in 1959 and went into effect October 1. A new Air Express Agreement was also signed with the airlines. Effective September 1, 1959, rates on less-than-carload shipments were increased 25 cents per hundred pounds, or 35 cents when such traffic moves in Eastern and Mountain Pacific regions. Later, the Agency extended its system of incentive or reduced rates applying on shipment aggregations of 300 lb or more to cover a considerable number of specific commodities moving in volume from key origin points.

Adjustments in rates and fares as well as changes in the consist of traffic were reflected in average revenue per unit of traffic handled in 1959. As shown in Table 3, revenue per ton-mile turned downward after a gradual three-year climb, dropping fractionally from an average of 1.464 cents in 1958

(*Continued on page 49*)

Table 3: Revenue Per Unit of Traffic: 1950-1959

Year	Per ton-mile (cents)	Per passenger-mile (cents)
1950	1.329	2.651
1951	1.336	2.601
1952	1.430	2.664
1953	1.478	2.660
1954	1.420	2.620
1955	1.370	2.604
1956	1.384	2.684
1957	1.445	2.841
1958	1.464	2.902
1959 est.	1.455	2.970

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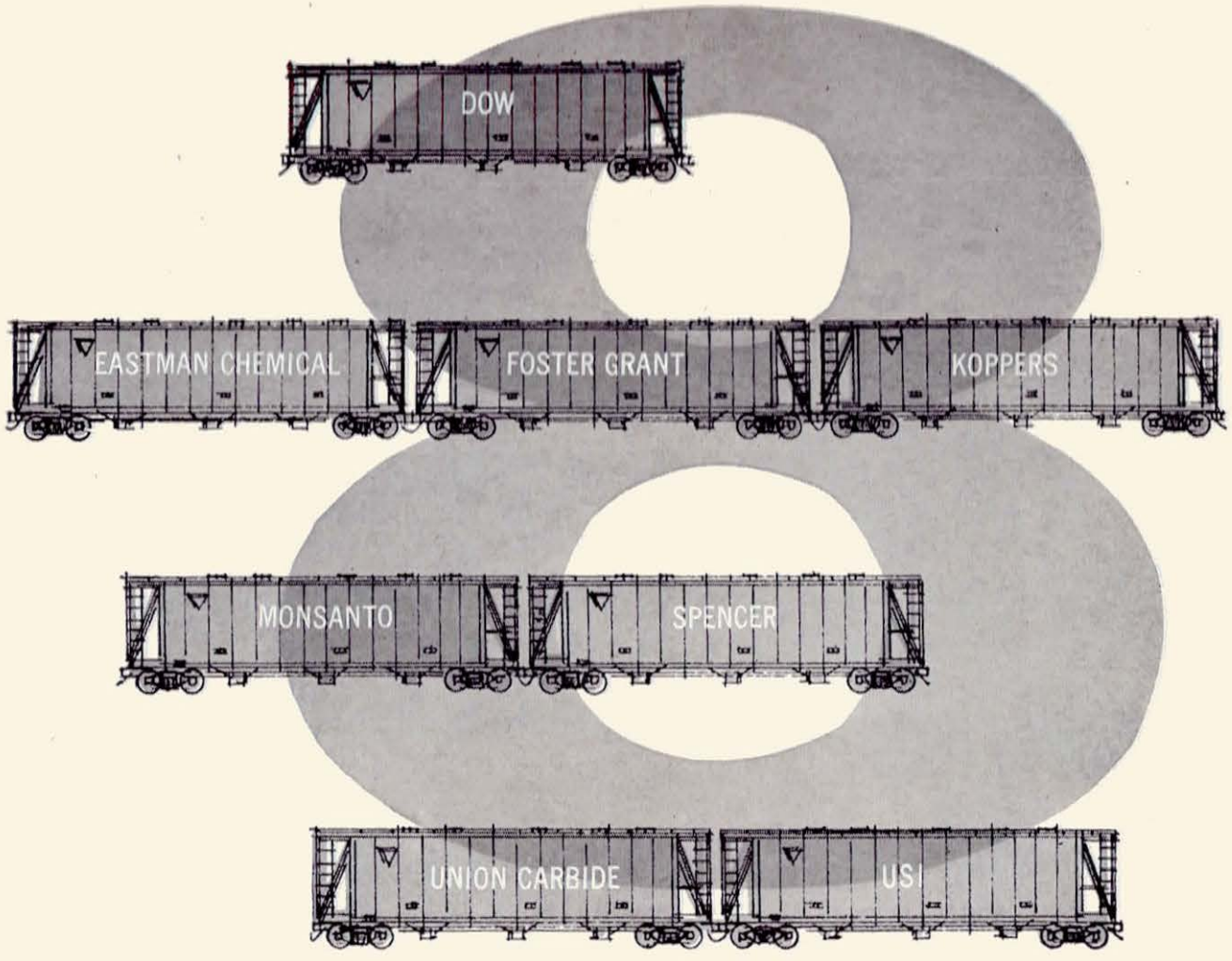

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to about 1.455 cents in 1959. Revenue per passenger-mile in 1959 is expected to average about 2.97 cents, an advance of 2.4% over the previous year.

Employment and Wages

Railroad employment in 1959 declined to an average of 814,000, about 3.0% below that of 1958 and the lowest average employment of this century. The aggregate payroll was $4,975 million, about 1% above that of 1958.

The straight time rate of pay of railroad employees averaged $2.55 per hour in 1959, an increase of nine cents over the average for 1958. Annual earnings per employee amounted to $6,110 in 1959. Both hourly rates and hourly earnings reached new peaks.

The industry's three-year agreements which were effective from November 1, 1956, provided, among other things, for general wage increases to become effective on November 1 of each of the years 1956, 1957 and 1958, and a cost-of-living wage adjustment to be made commencing May 1, 1957, and each six months thereafter. The agreements also included a three-year moratorium from November 1, 1956, on demands for further wage increases or rules changes affecting pay.

Prior to November 1, 1956, the straight time rate of pay for all railroad employees averaged $2.11 per hour, compared with the current straight time rate subsequent to November 1, 1959, of $2.59 per hour, an increase of 48 cents per hour. Included are the increases resulting from the various upward cost-of-living adjustments totalling 16 cents per hour.

The minimum wage rate generally effective was increased from $1.60 per hour in October 1956 to $2 per hour in November 1959. For a 40-hour week the increase was from $64 to $80.

In addition to wages for work performed, railroad payrolls include vacation pay, holiday pay for certain employees, and various other allowances. Also, railroads provide unemployment and sickness benefits for all employees, and they share equally in the cost of the Federally-administered retirement system. In lieu of certain wage increase adjustments, hospital and medical insurance is provided for non-operating employees and their dependents.

Taking into account these designated supplemental payroll costs, as well as premium pay for overtime worked and the so-called mileage basis of pay for train and engine service employees, it actually cost railroads in 1959 about $3.30 for each employee-hour actually worked, or approximately 75 cents per hour in excess of the average straight time rate of pay.

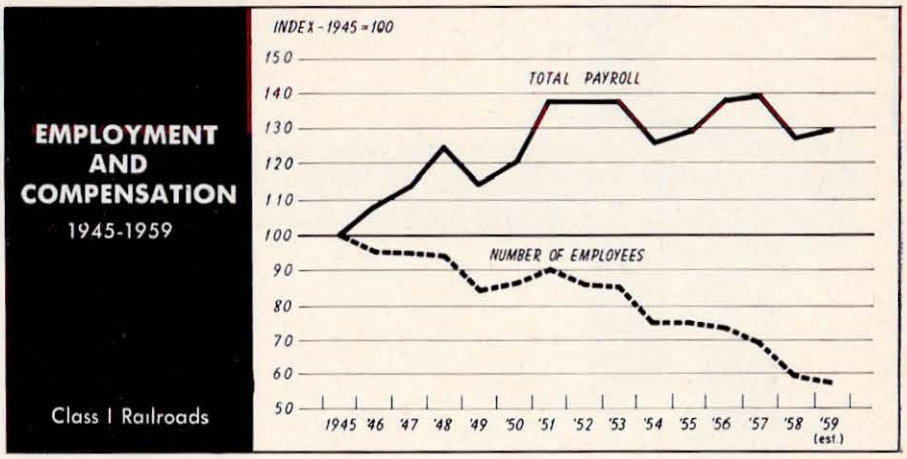

Table 4: Employees and Their Compensation

Year	Average number of employees	Total payroll (thousands)	Average annual earnings of employees	Average straight time hourly Rate	Earnings
1940	1,026,956	$1,964,481	$1,913	$0.74	$0.77
1945	1,420,266	3,859,907	2,718	0.93	0.97
1950	1,220,784	4,620,518	3,785	1.58	1.65
1955	1,058,216	4,993,662	4.719	1.96	2.08
1956	1,042,664	5,324,672	5,107	2.13	2.25
1957	986,001	5,358,044	5,434	2.28	2.42
1958	840,575	4,929,906	5,865	2.46	2.61
1959*	814,000	4,975,000	6,110	2.55	2.72

*Partially estimated.

Although the 1956 wage agreements were referred to as three-year term agreements, they were negotiated under the terms of the Railway Labor Act and will continue in effect until changed. They are referred to as three-year agreements because of the moratorium provisions.

The various railroad labor organizations, in 1959, filed demands for wage and fringe benefit increases as follows:

Engineers, Conductors and Switchmen. The Brotherhood of Locomotive Engineers, Order of Railway Conductors & Brakemen and the Switchmen's Union of North America served notices on March 2, 1959, requesting that the cost-of-living allowances in effect on November 1, 1959, be incorporated in basic rates of pay and that basic rates so revised be increased by 12%, effective November 1, 1959. They also requested continuation of cost-of-living escalation, such adjustment to be made in accordance with present provisions (one cent for every one-half point change in the Consumer Price Index) but utilizing the Consumer Price Index as of September 1959 as the base from which to measure future adjustments.

The ORCB also requested an increase of 1.6% of average basic rates in effect in October 1956, such increase to be included in the base on which the requested 12% increase should apply.

Mediation of these demands commenced in Chicago on October 26 and was continuing at the year's end.

Trainmen. By notice dated April 20, 1959, the Brotherhood of Railroad Trainmen asked for an increase of 14% to become effective November 1 after cost-of-living adjustments were included in basic rates. Updating of the cost-of-living adjustment base was also requested. For yard service employees represented by the BRT an additional increase of four cents per hour was requested for those who had exercised an option to receive holiday pay.

Mediation of these demands commenced in Chicago on December 1, 1959, and was continuing at the end of the year.

Firemen. The Brotherhood of Locomotive Firemen & Enginemen, by notice dated June 15, 1959, requested incorporation of all cost-of-living allowances in effect November 1 in basic rates and that the rates so revised be increased by 14%. The notice re-

(Continued on page 51)

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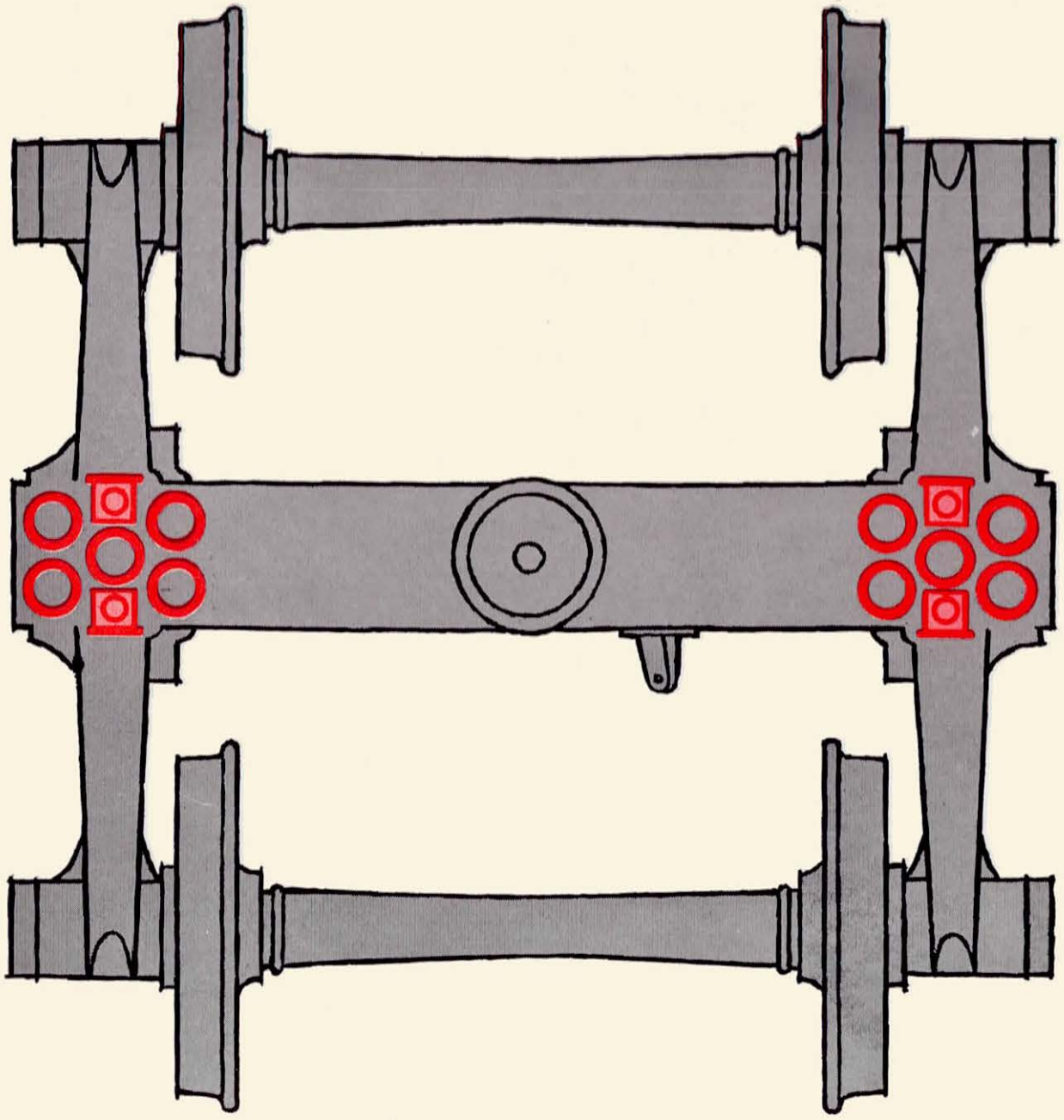

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quested continuation of cost-of-living escalation, but providing that such adjustments should be made every three months commencing February 1, 1960, on a basis of one cent per hour for each 0.4 and 0.5 point change, alternately, in the Consumer Price Index for December 1959.

Mediation of this dispute, which commenced in Chicago on December 1, was continuing at year's end.

Nonoperating Employees. The eleven labor organizations representing nonoperating employees served, on May 29, 1959, unified demands for increased vacation time, requesting vacations of 10 working days after one year of service, 15 days after 5 years, and 20 days after 10 years of service, and other provisions liberalizing the vacation conditions. That same notice also requested that the number of paid holidays per year be increased from 7 to 9 by the addition of Good Friday and Veterans Day.

On September 1, 1959, the nonoperating organizations served notice for a flat wage increase of 25 cents per hour to become effective November 1, 1959, and for inclusion of the existing cost-of-living allowances in basic rates, the cost-of-living adjustment provisions of the present contract to be cancelled as of November 2, 1959. The same notice demanded employer-financed life insurance to provide payment upon death of an amount equal to full-time annual earnings with a maximum of $5,000, as well as expanded medical, surgical and hospital benefits for employees and their dependents.

At year's end, conferences between the Carriers' Committees and representatives of the nonoperating labor organizations, in regard to above disputes, were still under way.

Railroad Proposals. By notices served on various dates on all union organizations, operating and nonoperating, the railroads proposed to cancel the cost-of-living adjustment provisions of existing contracts and to reduce basic rates of pay by 15 cents per hour effective November 1. This proposal is being handled concurrently with the upward demands proposed by the various union organizations.

In connection with the demands by the nonoperating organizations for increased medical and hospital benefits, the carriers proposed to amend the existing plan to provide limitation on payments covered by the Travelers Insurance Company Group Policy Contract.

Work Rules. On February 10, 1959, the president of the Association of American Railroads wrote to the heads of the five Operating Brotherhoods inviting them "to join with rail management in seeking the appointment of a Presidential Commission to study the impact of our present rules on the public welfare." Citing the finding of Emergency Board 109 that the internal wage structure is in need of "revision and modernization," he stated that "such a study is called for, in my opinion, to protect the welfare of our country, the solvency of our industry and the security of our workers."

After being advised that the unions would not join in asking for such a study, the president of the AAR wrote to President Eisenhower on August 17 stating that "railroad management appeals to you to appoint a commission clothed with objectivity and prestige of your office to examine this problem from the standpoint of the public's interest, and to recommend steps to bring these rules into line with modern conditions to the benefit of all parties concerned." The leaders of the five operating unions strenuously objected.

President Eisenhower replied on September 9, saying that "without expressing any opinion on the merits of your proposal, I cannot consider it at this time," recognizing that "collective bargaining negotiations between the industry and the major operating unions are scheduled to begin on November 1," and expressing the view that "the appointment of a commission at this time could interfere with the normal collective bargaining processes." He expressed the hope that both sides would exert every effort to settle the work rules problem through direct negotiations.

Thus, with the expiration of the three-year moratorium, the carriers, on November 2, 1959, served notices, pursuant to provisions of the Railway Labor Act, aimed to modernize six major provisions of the contracts, rules that govern job assignments and methods of pay for operating employees. The railroads proposed to:

- Eliminate arbitraries and special allowances, higher than standard rates, and mileage limitation rules. Road employees would be paid single time for hours or miles, whichever is greater.
- Eliminate rules which ban crews from operating through present crew change points, prohibit establishment of interdivisional runs, etc.
- Eliminate rules which prohibit or restrict the work performed by road and yard crews.
- Recognize the right of management to determine when and if a fireman should be used on diesel and other non-steam locomotives in freight and yard service.
- Recognize the right of management to determine the number of train crew members required in road or yard service.
- Recognize the right of management to determine employees to be used on self-propelled equipment used for track maintenance, repair or inspection.

Simultaneous with the filing of these notices, the railroads wrote the president of the BLF&E that "we recognize that our proposals will have an effect on the employees you represent," that is, firemen on diesel freight and yard locomotives, and further stated that "we will be glad to give full consideration to these problems and any proposals your organization may have in connection therewith."

The Switchmen's Union countered, on November 2, with proposals for paid sick leave, life insurance, increased vacation and holiday pay, shift differentials, etc., requesting that these proposals be handled concurrently with the work rules changes suggested by the carriers.

Following conclusion of system conferences on these railroad rules proposals, the individual roads referred the matter for further handling to the Carriers' Conference Committees. As of the end of the year the Carriers' Committees were looking toward arrangements for joint conferences with the labor organization.

Service Interruption Insurance. A Service Interruption Insurance Policy was adopted by the railroad industry, effective September 1, 1959. The policy was offered by The Imperial Insurance Company, Ltd., whose headquarters are at Nassau, Bahama Islands. It provides, among other things, protection payments with respect to strikes that are in violation of the Railway Labor Act or that are for the purpose of either enforcing union demands contrary to the recommendations of an Emergency Board or resisting application of management's proposals recommended by an Emergency Board.

Indemnity for an insured railroad's losses would be payable for up to 365 days during suspension of operations caused by a single work stoppage. The indemnity covers the average daily "fixed expenses," including property taxes, interest charges on debts, pension fund payments and employment of those managerial workers deemed essential for maintaining the property and resuming service at the end of a stop-

(*Continued on following page*)

 (Continued from page 51)

page. No indemnity is payable to an insured railroad if more than 50% of the industry is struck.

Wages and Prices

As previously pointed out, wages of railroad employees, which account for 62% of operating expenses, were paid at higher rates in 1959 than ever before. The average price of materials and supplies, which account for about one-fourth of all operating expenses, also moved to a new all-time high in 1959.

Indexes of wage rates and of "chargeout" prices, as compiled by the Bureau of Railway Economics, are shown in Table 5. The index of wage rates reflects the average straight time rate of pay, based on years 1947-1949 as 100. The "chargeout" index takes into account the lag between purchase and use of materials and reflects the original purchase price of materials consumed during each year. It, too, is based on average prices in the 1947-1949 period.

As shown by Table 5, the average wage rate in 1959 was up 94.7% over the average rate in 1947-1949. This increase, as noted above, represents only the trend in straight time rates, and does not reflect other added labor costs such as medical insurance, longer vacations, holiday pay, and increased payroll taxes. Prices of materials used in 1959 were up 44.5% above the 1947-1949 level, and the weighted average of the wage and material indexes showed an increase of 79.6%. Each of these indexes, and the combined index, attained new all-time highs in 1959. The combined index for 1959 is more than three times the index for 1939.

The index of railroad materials is shown on a "spot" price basis in Table 6, with fuel shown separately. The all-materials index, using the mid-year prices in 1947-1949 as 100, established an all-time high of 146.0 in April 1959, from which point it dropped in October to 143.2. This was slightly below the year's January figure of 143.9, but higher than the October index in any earlier year.

For materials and supplies other than fuel, a new peak of 158.6 was reached in July and maintained through October. The fuel index reached 124.7 in April but declined to 116.7 in July and then to 114.8 in October.

Table 5: Wage Rates and Material Prices: 1939-1959

(Average 1947-1949=100)

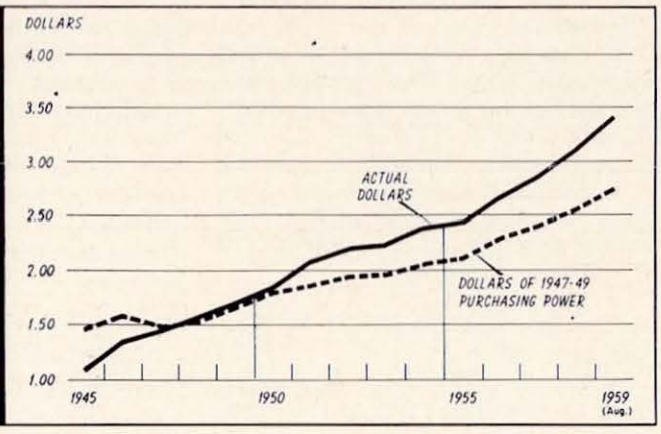
Year	Wage rates (all employees)	Chargeout prices for all materials including fuel	Wage rates and material prices combined
1939	56.5	52.0	55.2
1945	71.2	69.3	70.6
1950	120.5	105.7	116.1
1955	150.0	126.1	142.8
1956	162.4	134.2	153.9
1957	174.4	142.6	164.9
1958	187.9	141.4	174.0
1959 est.	194.7	144.5	179.6

Table 6: Railway Material Price Index: 1939-1959

(Mid-Year 1947-1949=100)

Month	Materials and supplies (other than fuel)	Fuel (oil and coal)	All materials (including fuel)
December 1939	55.5	47.5	52.6
December 1945	72.1	69.3	71.1
October 1950	113.8	104.9	110.4
October 1955	141.6	110.1	130.2
October 1956	149.5	119.0	138.3
October 1957	154.2	123.5	142.9
October 1958	155.4	116.8	141.6
January 1959	156.3	121.7	143.9
April 1959	158.1	124.7	146.0
July 1959	158.6	116.7	143.7
October 1959	158.6	114.8	143.2

PAYROLL COSTS PER EMPLOYEE HOUR WORKED
(Wages and Supplements to Wages)
1945-1959



Financial Results

Railroad earnings in 1959 were extremely disappointing. Railroads had entered the year hopefully, with economic indicators pointing upward, and with seeming public sympathy manifested in passage of helpful legislation by the Congress in 1958. Increased traffic and continued progress toward more equitable treatment by the Congress were in prospect.

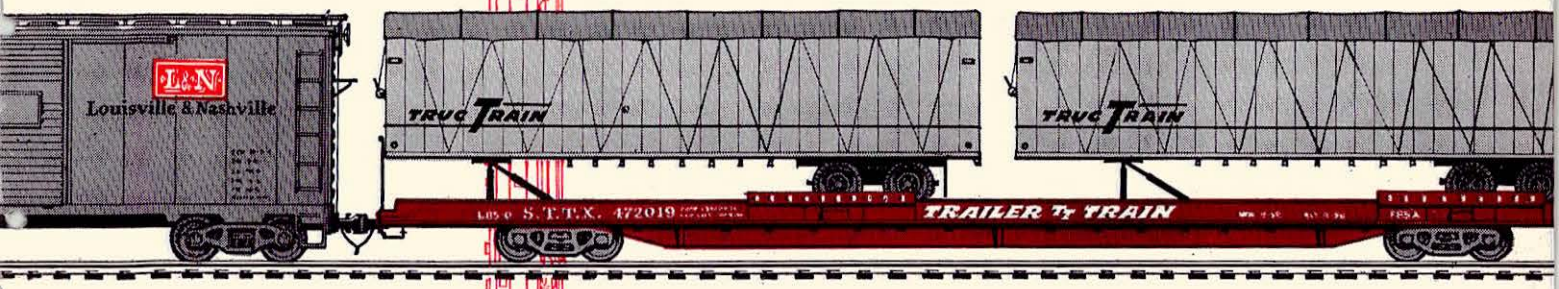
For six months railroads' hopes were sustained. Although their recovery did not keep pace with that of industry in general or of other carriers in particular, some progress was made in the year's first half toward a more adequate level of railroad earnings. Net income for 1959's first half was $307 million, more than double the $125 million earned in the first six months of 1958, although less than the six-months' net income of $347 million in 1957, $403 million in 1956, and $417 million in 1955.

But the Congress, in May, enacted costly amendments to the Railroad Retirement and Unemployment Insurance laws. Then came the steel strike, lasting nearly four months and cutting deeply into railroad freight traffic. The resulting revenue losses, together with increased costs of higher payroll taxes imposed by Federal law effective June 1, and a 3-cent cost-of-living wage increase effective November 1, as well as higher material prices, caused earnings to drop sharply in the year's second half.

Net income for the year 1959 is expected to approximate $580 million,

(Continued on page 56)

STILL ANOTHER!



TRAILER TT TRAIN

USES PRESSURE-TREATED DECKING

to make "piggy-back" rides cost even less!

Careful handling, competent and efficient movement . . . all have been factors in increasing the "piggy-back" volume handled by the Trailer Train Company.

Among factors contributing to low cost, profitable haulage, is Trailer Train's careful selection of materials which go into the decking on piggy-back cars.

Pressure-treated decking, as supplied by Koppers, was selected for use. Why? Constant exposure to weather is conducive to decay, the major cause of early wood failure. Treated decking, pressure-impregnated with chemical preservatives, is safe from decay attack. It lasts longer. Maintenance costs are drastically reduced, in-service revenue climbs—the reason why Trailer Train *specifies* pressure-treated decking.

The Advantages of Pressure-Treated DECKING

longer service life
higher impact strength
greater wear resistance

WRITE for this 12-page booklet. It shows in dollars and cents the advantages of Koppers pressure-treated wood for construction and maintenance of rolling stock.

KOPPERS

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KOPPERS PRESSURE-TREATED WOOD

Wood Preserving Division, Koppers Company, Inc., 761 Koppers Building, Pittsburgh 19, Pa.

NEW Column wear plate with high weldability

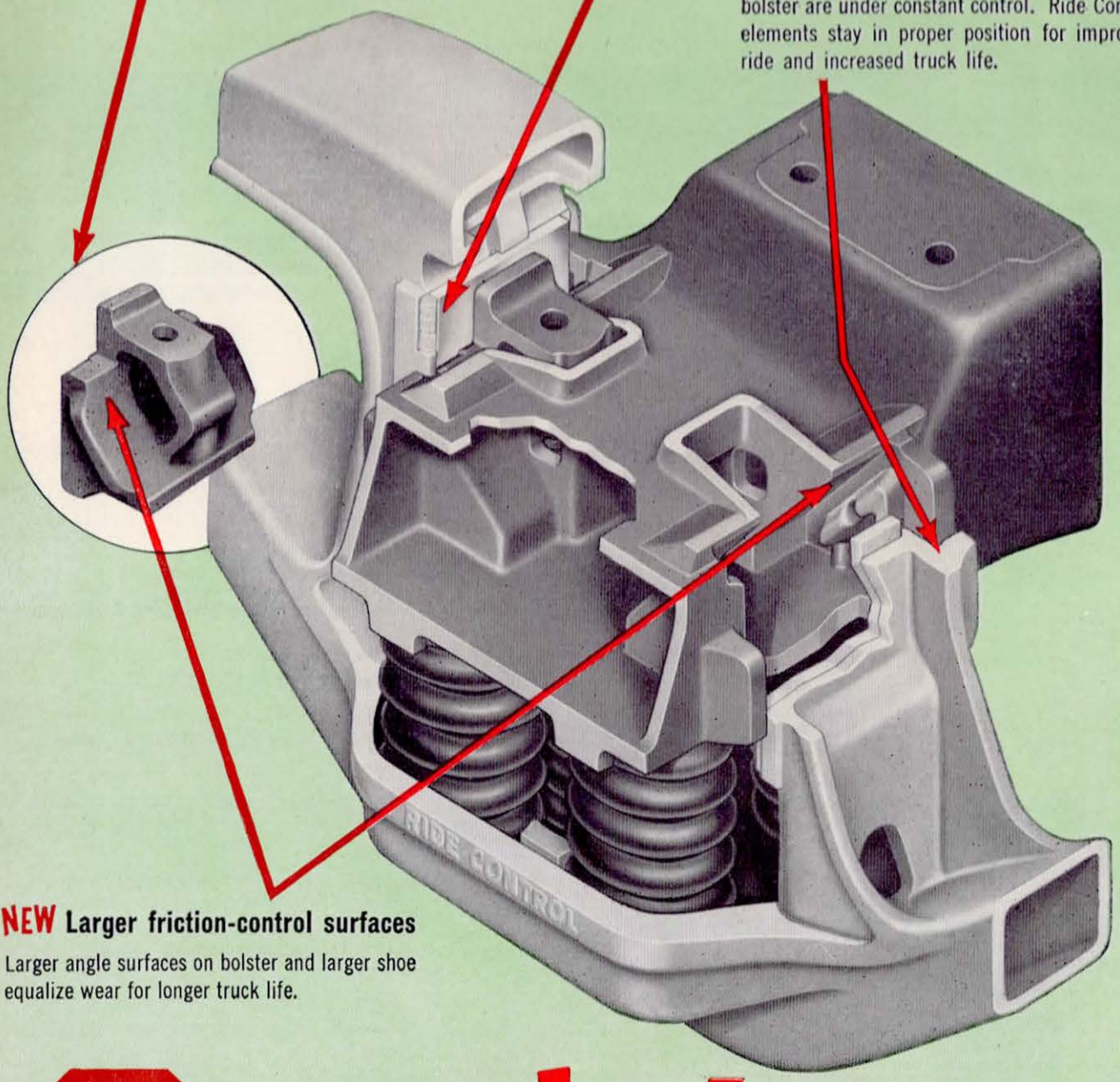
Steel composition and heat treatment developed for wear resistance, yet the plate is readily weldable.

NEW Wing shoe is shell-molded

Larger areas—plus ASF's precision casting process that results in smoother surfaces and closer tolerances. New longer-wearing steel, too.

NEW Superior bolster control

Longitudinal, lateral and rotary movement of bolster are under constant control. Ride Control elements stay in proper position for improved ride and increased truck life.



NEW Larger friction-control surfaces

Larger angle surfaces on bolster and larger shoe equalize wear for longer truck life.

ASF Ride Control NEW Truck

AMERICAN STEEL FOUNDRIES

Prudential Plaza, Chicago 1, Illinois

Canadian Manufacturer and Licensee: International Equipment Co., Ltd., Montreal 1, Quebec
Other Foreign Sales: American Steel Foundries, International, S.A., Chicago

GEARED TO PROGRESS
P R I
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New ASF Ride Control® Truck gives you larger bearing areas, better shoe and bolster action. Result: Longer truck life.

Based on 20 years' experience with Ride Control Trucks and continuing research, American Steel Foundries has designed the new ASF Ride Control Truck to answer your needs for a lasting smooth ride. Bearing areas have been increased, critical wear points now last longer than ever. Shoe and bolster interaction has been improved, bolster shift minimized. You get balanced wear with lower maintenance costs because of longer life of the component truck parts. The new ASF Ride Control Truck has been tested and proved in action on the ASF Service Laboratory Test Train, and is ready to give you even better service.

down nearly 4% from 1958's total of $602 million, and the lowest net realized in any year since 1949. Net railway operating income, estimated at $755 million, will not exceed the $762 million earned in 1958, and the rate of return on net investment will again be less than 2.8%.

Table 7 shows the condensed income account in actual figures for the first eleven months of 1959. Operating revenues showed an increase of $253 million, or 2.9%, over those of the corresponding 1958 period. Operating expenses increased by $162 million, or 2.4%, thus slightly reducing the operating ratio to 78.51% from 78.93% in the 1958 period.

The increase of $91 million in net operating revenue was largely wiped out by a $82 million increase in taxes, including a $50 million increase in payroll taxes. The rest of the gain was offset by the increased expense of higher equipment and joint facility rentals.

Thus, none of the increased revenues was carried through to net railway operating income. That item for 11 months stood at $672 million, a decrease of 1.9% under the 11-month figure for 1958, and $192 million less than the 11-month total in 1957. Net income after deduction of fixed charges and after allowance for miscellaneous charges and credits was about $484 million for the first eleven months, compared with $514 million for the 1958 period.

As shown in Table 8, all principal categories of operating revenue, except passenger revenue, increased in the first 11 months of 1959. Passenger revenue at $591 million was the lowest since 1941, showing a decrease from 1958 of 2.8%. Freight revenue, which accounted for 85% of all operating revenues for the 11 months and accounted for 91% of the increase in revenue over 1958, was up by 3.1% over the previous year, but was 7.8% under the 1957 level. For the first six months of operation, freight revenue was 11.6% ahead of the corresponding 1958 period, but this gain was largely erased during the months of the steel strike. Mail revenue for the 1959 period increased by less than 1%. Express revenue, representing so-called "express privilege" payments to railroads by the Express Agency, showed a marked increase of over 30%. This increase was the result of a combination of increased revenues and reduced expenses of the Railway Express Agency. All other revenues increased by $16 million, or 4.4%, during the first 11 months of the year.

All principal operating expense accounts showed increases in the first eleven months of 1959 over the comparable 1958 period. Transportation expenses, the largest of the groups, showed the smallest increase, 1.7%. Maintenance of way and structures and maintenance of equipment increased 1.0% and 4.8%, respectively. The balance of the expenses as a group showed an increase of 2.4%. Total maintenance expenditures in 1959 took 31.0% of operating revenues, compared with 30.9% in 1958 and 31.8% in 1957.

The rate of return on net investment, as shown in Table 10, is estimated at 2.74% for 1959. This estimated return, if realized, will be the lowest earned in any year since 1939. Net income for 1959, estimated at $580 million, was lower than for any other year since 1949 when railroads netted $438 million.

Comparisons of earnings with those

(*Continued on page 58*)

Table 7: Condensed Income Account, 11 months, 1957-1959

	1957 (millions)	1958 (millions)	1959 (millions)
Total operating revenues	$9,680	$8,727	$8,980
Total operating expenses	7,554	6,888	7,050
Operating ratio (per cent)	78.04	78.93	78.51
Taxes	1,012	877	959
Net railway operating income	864	685	672
Rate earned (per cent)*	3.36	2.76	2.74
Net income after charges	665	514	484

* Rate of return on net investment for full calendar year (1959 estimated).

Table 8: Operating Revenues, 11 months, 1957-1959

	1957 (millions)	1958 (millions)	1959 (millions)
Freight	$8,264	$7,386	$7,617
Passenger	670	608	591
Mail	252	289	290
Express	87	79	103
All other	407	364	380
Total	$9,680	$8,727	$8,980

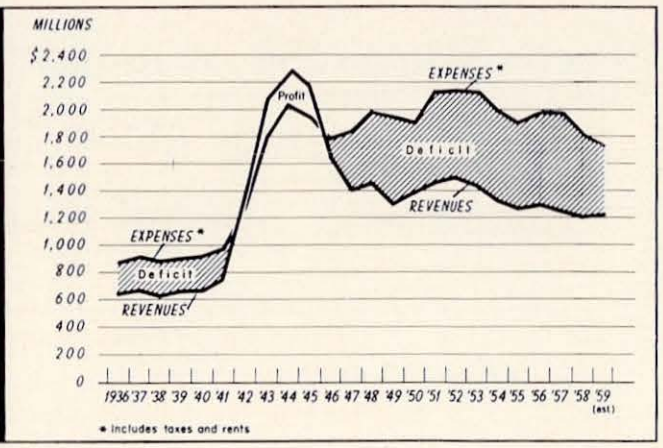
Table 9: Operating Expenses, 11 months, 1957-1959

	1957 (millions)	1958 (millions)	1959 (millions)
Maintenance of way	$1,321	$1,125	$1,136
Maintenance of equipment	1,759	1,573	1,648
Transportation	3,752	3,492	3,551
Traffic, general & other	722	698	715
Total	$7,554	$6,888	$7,050

RESULTS OF PASSENGER TRAIN OPERATIONS

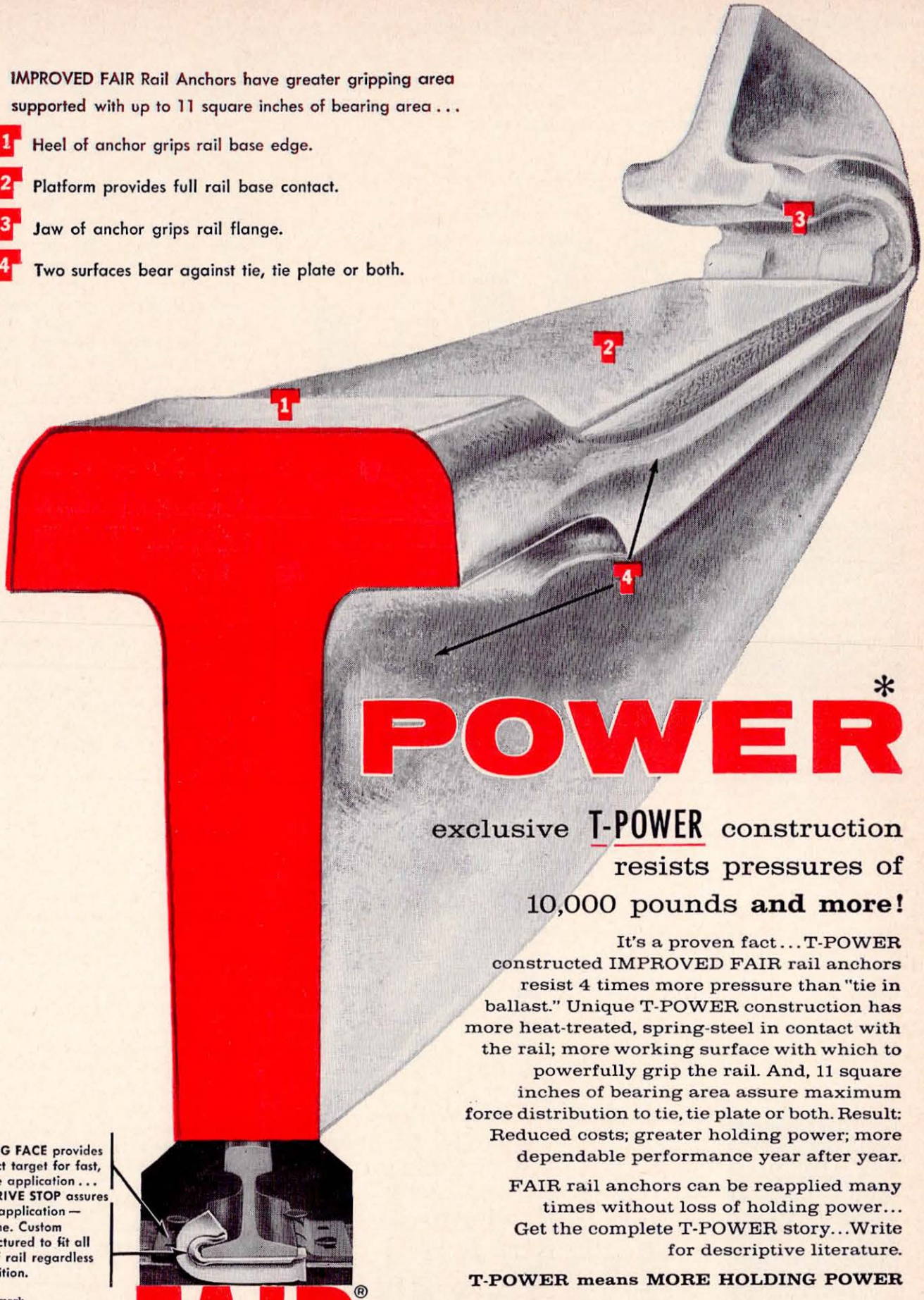
1936-1958

Class I Railroads



IMPROVED FAIR Rail Anchors have greater gripping area supported with up to 11 square inches of bearing area . . .

1. Heel of anchor grips rail base edge.
2. Platform provides full rail base contact.
3. Jaw of anchor grips rail flange.
4. Two surfaces bear against tie, tie plate or both.



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exclusive T-POWER construction resists pressures of 10,000 pounds **and more!**

It's a proven fact . . . T-POWER constructed IMPROVED FAIR rail anchors resist 4 times more pressure than "tie in ballast." Unique T-POWER construction has more heat-treated, spring-steel in contact with the rail; more working surface with which to powerfully grip the rail. And, 11 square inches of bearing area assure maximum force distribution to tie, tie plate or both. Result: Reduced costs; greater holding power; more dependable performance year after year.

FAIR rail anchors can be reapplied many times without loss of holding power . . . Get the complete T-POWER story . . . Write for descriptive literature.

T-POWER means MORE HOLDING POWER

STRIKING FACE provides a perfect target for fast, accurate application . . . **OVERDRIVE STOP** assures proper application — everytime. Custom manufactured to fit all types of rail regardless of condition.

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IMPROVED FAIR® RAIL ANCHOR

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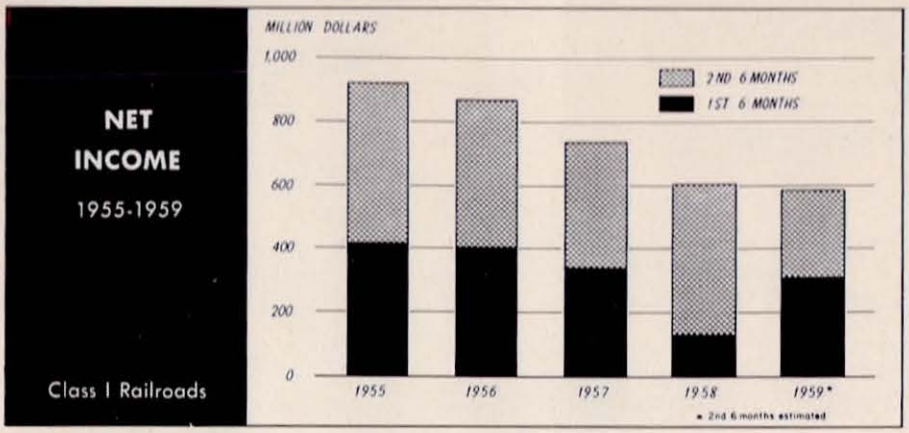
of prior years should, of course, take into account the fact that railroad equipment and facilities now cost on the average more than 2½ times much as in 1939 and about 70% more than in 1946.



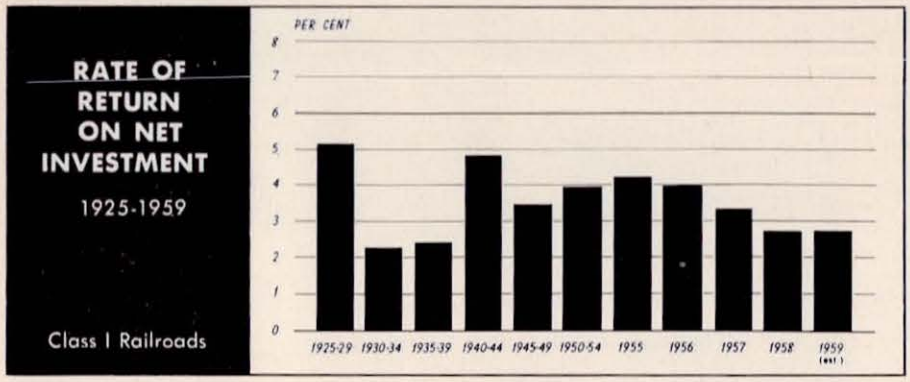
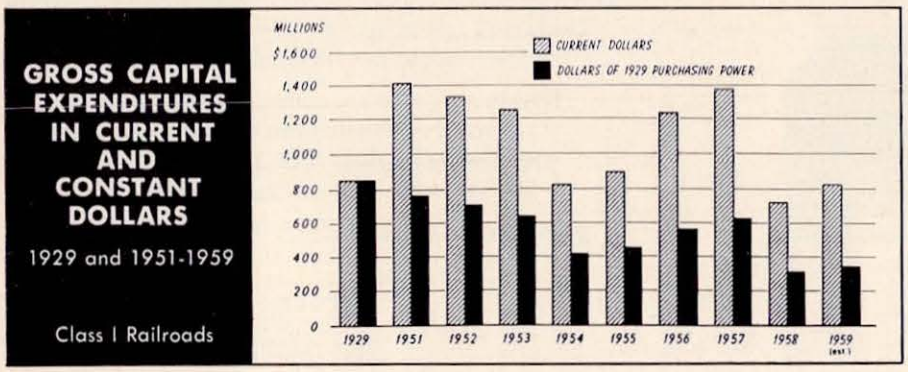


Table 10: Rate of Return and Net Income: 1950-1959

Year	Net railway operating income (millions)	Rate of return on investment after depreciation	Net income (after fixed charges) (millions)
1950	$1,040	4.28%	$784
1951	943	3.76	693
1952	1,078	4.16	825
1953	1,109	4.19	903
1954	874	3.28	682
1955	1,128	4.22	927
1956	1,068	3.95	876
1957	922	3.36	737
1958	762	2.76	602
1959 est.	755	2.74	580



Capital Expenditures

Railroad capital expenditures in 1959, as in the preceding year, were held down by the low level of net earnings. Purchases of materials and supplies were limited to current needs, with little or no building of inventories occurring during the year.

Capital expenditure programs were especially low in the early part of the year, then were stepped up as earnings improved, and again were cut back as earnings dropped and steel shortages developed in the last half. Total spending for capital improvements in 1959 is presently estimated at $829 million, an increase over 1958's total of $738 million, but otherwise close to a postwar low. About $656 million was spent for equipment and $264 million for roadway projects in 1959, compared with $480 million for equipment and $258 million for roadway in 1958.

Purchases of fuel and other materials and supplies for operations and maintenance, which had been cut in 1958 by nearly one-third under 1957, were increased by about one-fifth in 1959 over 1958. The total for the year is expected to approximate $1.5 billion. The increase is accounted for by larger quantities used, by higher prices paid, and by the fact that inventories were not reduced as they were during the preceding year.

Equipment Trends

As indicated elsewhere in this review, the railroad equipment situation was a cause of concern in 1959, even though the supply was generally adequate to meet requirements throughout the year. Installations of new equipment were below average for the second successive year, bad order ratios were above average, and ownership trends continued downward.

The continuing low level of railroad earnings and the inadequacy of depreciation charges to meet replacement costs were important factors contributing to these unfavorable trends.

Freight Cars. The decline in freight car ownership which began in 1958 continued month-by-month throughout 1959, resulting in a drop of about 40,000 cars and leaving end-of-year ownership at an estimated 1,685,000 cars. This total was the lowest reported for Class I railroads since 1941, although the capacity of the fleet, owing to bigger and better cars, is substan-

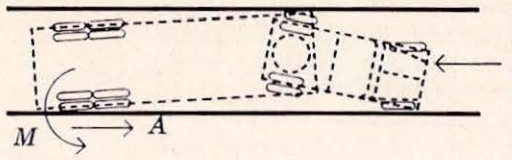
(Continued on page 60)

AUTOMATIC ALIGNMENT FOR PIGGYBACKING

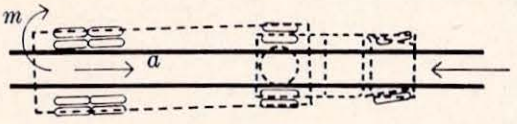
Loading and unloading General American's new G-85 Piggy-Back car is a time-saving, one-man job. The driver needs no assistance, he operates the tie-down hitch from the cab. What's more, the G-85 gives you more exclusive money-saving features than any other piggyback car:

- Fastest to load and unload!
- 10,000 pounds lighter than any other car for greater payload!
- Takes all trailers without modification—no dollies needed!
- Mix or match up to 85 feet of trailers, auto carriers, vans, tanks, containers!
- Needs no expensive loading or unloading equipment!
- Fully compatible with other piggyback cars!
- Only 3 feet from deck to rails for best clearance!
- Best protection against shock—absorber permits full 22 inch travel!

Call or write the General American office nearest you. In piggybacking, you'll find, *it pays to plan with General American!*



Backing a trailer onto a car with outer rails: *Tire contact with the rail "A" creates a moment "M" which increases misalignment. Tires scuff, rear wheels jam and the driver must pull ahead to realign.*



Backing a trailer onto a car with center guides: *Tire contact with the center guide "a" creates a moment "m" which automatically realigns the trailer. The momentary contact between tire and guide is much more gentle, as moment "m" is only one-half of "M".*

Piggy-Back Division

GENERAL AMERICAN TRANSPORTATION CORPORATION

135 South LaSalle Street • Chicago 3, Illinois

Piggy-Back GENERAL AMERICAN TRADE MARK

Offices in principal cities

tially greater now than it was in that prewar year.

New freight cars installed in 1959 totaled approximately 40,000, about one thousand more than were put into service in 1958. Retirements aggregated 80,000 cars, compared with 60,000 in 1958. Thus, the ownership loss in 1959 was nearly double that of the preceding year.

The freight car bad order percentage, which stood at 8.6% of ownership at the end of 1958, remained at high levels in 1959, but was trending downward in the closing months of the year, as repair work was stepped up following settlement of the steel strike.

The backlog of new freight cars on order increased in 1959 from 30,328 January 1, to 48,164 July 1, but declined in the last half to a total of about 40,000 cars at year end. This number of cars on order is generally considered adequate to sustain production of sufficient new cars to offset retirements at the average level of about 5,000 cars a month, but not to effect an increase in ownership.

While no general shortage of freight cars existed in 1959, neither were all car requirements met without delay. To handle the expected increase in freight traffic in 1960, therefore, will require an increase in the supply of serviceable cars, and this in turn means that further progress must be made in returning bad order freight cars to active service and stepping up production of new cars. Efforts must also be continued to secure maximum output from available equipment.

Passenger-train Cars. The trend of passenger car ownership continued downward in 1959. Fewer new cars were installed than in any other peacetime year since 1933, and the number of cars in service, including Pullman cars, fell to about 31,000. Ownership of all passenger-train cars is now about one-third less than it was at the end of World War II, and the number of passenger-carrying cars has declined by more than 40%. While this loss of carrying capacity must be viewed with alarm from a national defense standpoint, it is in keeping with the continuing downward trend of rail passenger traffic.

Locomotives. Total locomotive ownership declined slightly in 1959. The supply of motive power was generally adequate, however. The year's peak traffic was handled in June with serviceable units in reserve. Approximately 800 new locomotive units were placed in service during the year. Except for several gas-turbine locomotives, all the new units were diesels. The new installations almost offset the retirements numerically, and aggregate tractive effort was actually increased. The number of new locomotives on order at year-end, estimated at slightly over 200 units, was at a relatively low level.

Approximately 700 steam locomotives were still on the rails at the close of 1959, but almost all of these were either stored or unserviceable.

Table 11: Capital Expenditures and Purchases: 1950-1959

Year	Gross capital expenditures (thousands)	Purchases of fuel, materials and supplies (thousands)
1950	$1,065,842	$1,739,908
1951	1,413,995	2,175,859
1952	1,340,912	1,817,750
1953	1,259,797	1,920,481
1954	820,246	1,424,761
1955	909,521	1,637,075
1956	1,227,857	1,883,848
1957	1,394,705	1,816,471
1958	738,038	1,230,617
1959 est.	829,000	1,500,000

Table 12: Ownership Trends—Cars: 1953-1959

Year	Ownership at end of year	New cars installed during year	New cars on order at end of year
	Freight cars		
1953	1,776,017	67,548	27,678
1954	1,735,553	28,405	13,624
1955	1,694,097	35,738	135,293
1956	1,707,683	59,768	103,535
1957	1,746,684	88,482	57,490
1958	1,725,723	39,278	30,328
1959 (est.)	1,685,000	40,000	40,000
	Passenger-train cars (incl. Pullman cars)		
1953	40,755	348	449
1954	38,875	389	396
1955	37,597	444	394
1956	35,636	411	252
1957	34,219	191	143
1958	32,344	148	72
1959 (est.)	31,000	50	170

Table 13: Ownership Trends—Locomotives: 1953-1959

Year	Units owned at end of year	New units installed during year	New units on order at end of year
	Diesel-electric locomotives		
1953	22,671	2,091	546
1954	23,732	1,097	483
1955	24,899	1,172	827
1956	26,190	1,445	780
1957	27,320	1,312	413
1958	27,715	430	535
1959 (est.)	28,270	800	200
	*Other locomotives		
1953	12,405	19	25
1954	9,124	16	10
1955	6,605	10	27
1956	4,287	8	34
1957	2,956	4	30
1958	1,872	4	26
1959 (est.)	1,270	5	22

*Includes steam, electric, and turbine-electric.

Operating Efficiency

Although earnings of the railroad industry have been consistently substandard in the years since World War II, it is to the credit of railroad management, considering the forces of inflation and intense competition with which they have had to contend, that the industry has been able to survive at all.

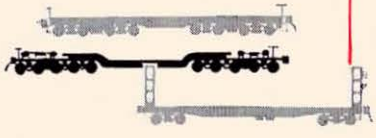
(*Continued on page 62*)

true, we're known as specialists in "specials", but actually we don't specialize in anything but perfection.

the reason we build more specials than any other carbuilder is merely because we happen to have so precisely what a special requires that whenever railroad men or shippers think of special purpose cars, the next thought is almost automatically . . .

call THRALL

but, this reputation has come to us as singularly excellent engineers and fabricators, not as "special" builders; and we would like to point out that *these are qualities* which can't be "turned off"—whether applied to specials or standards—one car or three hundred.



certainly,

continue to "Call THRALL" for specials—*but why deny your standards this advantage?*

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CAR MANUFACTURING CO.
2602 WALLACE STREET, CHICAGO HEIGHTS, ILLINOIS

Since the end of World War II in 1945, wage rates of railroad employees have increased by 173% and prices of railroad materials have advanced by 109%, a combined increase of 154% for these two principal components of railroad operating expenses. But on the revenue side, average revenues are up only 52% per ton-mile and 57% per passenger-mile. The task of management has been to prevent rising expenses from consuming completely the profit margin.

Because a substantial portion of railroad expenses are relatively fixed, gains in operating efficiency and economy flow naturally from an increase in traffic. When traffic is stable or declining, however, as it has been in the years since World War II, the fixed character of rail costs makes gains in efficiency much more difficult to obtain.

Evidence of increased efficiency is found not only in the contrast cited above between unit costs and unit revenues but also in freight and passenger service operating averages, such as those shown for selected postwar years in Tables 14, 15 and 16.

In road freight service, gains have been made in almost every year in average train speed and in average train load. Freight trains averaged 19.5 miles per hour in the first 9 months of 1959, or 22% faster than average speed in 1946. This increase becomes more impressive when considered together with average train load, which, as measured by net ton-miles per train-mile, was nearly one-third greater in 1959 than in 1946. The combined measure of average gross load and average speed of trains—gross ton-miles per train-hour—has increased in each postwar year, and was two-thirds greater in 1959 than in 1946. Average load per freight car, measured by net ton-miles per loaded car-mile, was 33.2 tons in the first 9 months of 1959; this was higher than the average for any other year shown in Table 14, but slightly under the high record of 33.4 tons set in 1957.

Passenger service averages, as shown in Table 15, also registered gains in 1959. Average speed of passenger trains was 40.2 miles per hour, the same as in 1958, but the average train was longer, and car-miles per train-hour increased to 405, a small rise over the 1958 average and a 20% increase over 1946. Passenger-miles per car-mile, an indicator of car occupancy, was higher than in any year since 1948, although far below the averages recorded in the years of World War II when passenger service showed a profit.

Daily mileage averages of both freight locomotives and freight cars, shown in Table 16, increased somewhat over the level of recession year 1958, but were held down below previous high records by the effects of the prolonged steel strike.

Daily mileage of the average passenger locomotive fell from 335.0 in 1958 to 328.1 in the first 9 months of 1959, but the 1959 average still exceeded the 1946 average by more than 100 miles per day.

Total freight car mileage in the first 9 months of 1959 was 3.6% above the comparable 1958 total, while average serviceable freight cars on line showed a decrease of 3.7%. Thus, car-miles per car-day increased in 1959 over the previous year, but the 1959 figure of 46 miles per day was below the average for most other postwar years.

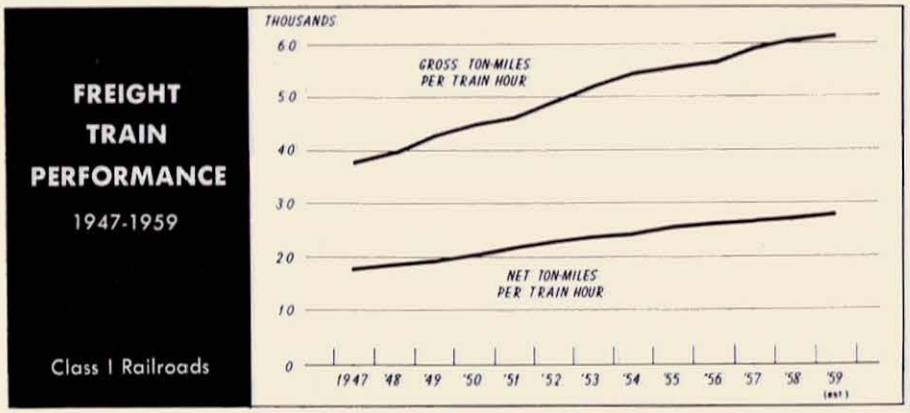

Table 14: Freight Service Averages: 1946-1959

Year	Average train speed (m.p.h.)	Net ton-miles Per loaded car-mile	Net ton-miles Per train-mile	Gross ton-miles per train-mile
1946	16.0	31.3	1,086	37,057
1949	16.9	31.4	1,138	42,346
1952	17.6	32.5	1,296	49,113
1955	18.6	32.1	1,374	55,770
1958	19.2	33.0	1,430	60,807
1959 (9 mos.)	19.5	33.2	1,438	61,792

Table 15: Passenger Service Averages: 1946-1959

Year	Average train speed (m.p.h.)	Passenger miles per car-mile	Car-miles per train-mile	Car-miles per train-hour
1946	35.5	24.7	9.5	338
1949	37.0	18.0	9.2	341
1952	38.3	18.1	9.8	375
1955	39.8	17.8	9.9	393
1958	40.2	18.6	9.8	394
1959 (9 mos.)	40.2	19.0	10.1	405

Table 16: Daily Mileage, Locomotives and Cars: 1946-1959

Year	Active freight locomotives	Active passenger locomotives	Serviceable freight cars
1946	115.9	221.8	45.2
1949	112.5	228.5	42.9
1952	126.8	266.1	46.2
1955	148.7	312.7	48.2
1958	141.6	335.0	43.6
1959 (9 mos.)	146.2	328.1	46.0

Legislative Activity

A number of important measures relating to railroad transportation were enacted in the first session of the 86th Congress.

Railroad Retirement and Unemploy-

(Continued on page 70)

Arrangements are being made for a **SPECIAL TRAIN** to transport Railroad Officials and Supply Representatives from Chicago to San Francisco and return.

Contact your Committee Chairman for further details.

FOR THE LADIES . . .

Entertainment and sightseeing tours are provided.

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For further details write Richard Riley, Committee Chairman, Anaconda Wire & Cable Company, 120 Montgomery Street, San Francisco, California

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43rd Annual

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51st Annual Meeting

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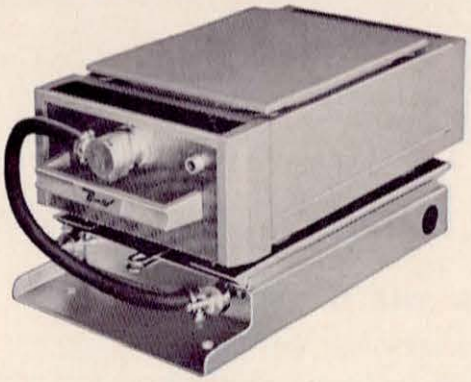
. . . or telephone Committee Chairmen: W. W. Hutchinson — Chicago — State 2-4121; R. D. Weeks — San Francisco — Douglas 2-3740.

NEW BENDIX RAILROAD RADIO

transistorized . . . available in all three versions: 12V DC, 72V DC, and 117V AC



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- Extensive transistorization throughout receiver . . . transistorized audio section in transmitter . . . power supply completely transistorized.
- Transmitter, receiver, and power supply each contained in a separate, plug-connected chassis, thereby simplifying and speeding maintenance.
- Extensive use of printed circuits.
- Total unit weight only 30 lbs.
- Compact size, measuring just 18″ x 10½″ x 6¾″.
- Power supply specially designed for protection against damage from surges and overloads.
- Meets AAR specifications.

Some advantages of companion 8CA control unit . . .

- Provides complete local control of railroad communications units.
- Incorporates four-position channel selector switch, "L" pad volume control, transmit indicator lamp, and four-inch speaker.
- Control surface is backlighted to make all controls visible, while eliminating dangerous glare.

for complete information on the new Bendix 2R Radio, contact . . .

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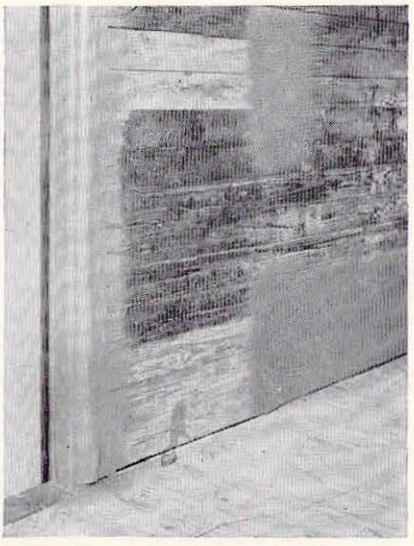
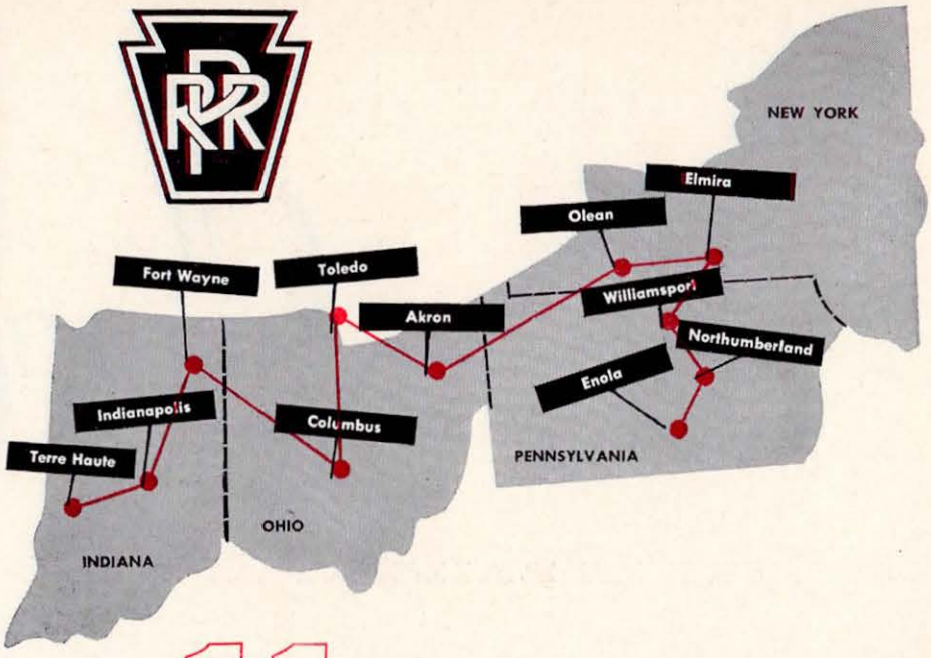
SPRAY ON PLASTIC, add fiberglass reinforcing where necessary. Freight Liner 810 is that easy. ADM representatives provide free instruction.



BACK IN SERVICE with a reconditioned interior, moisture tight and sanitary. This is how to beat the boxcar shortage—by applying Freight Liner 810.



11 REASONS WHY THE "PENNSY" APPLIES ADM Freight Liner 810

At eleven points on its road, the "Pennsy" uses Freight Liner 810 to keep 'em rolling—to repair and reline boxcars used by shippers in local areas—with minimum delay! The fast economical Freight Liner plastic-and-glass method is used by the "Pennsy" and 33 other major railroads . . . to put bad-order cars back in service and to advance cars to a higher classification. Here are 11 good reasons why:

- **FAST**—One man can do 15 cars a day
- **SIMPLE**—crews learn to apply with brief instructions
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- **VERSATILE**—covers stains, cracks, gouges
- **SANITARY**—Pure Food and Drug approved
- **DURABLE**—smooth, tough surface
- **ECONOMICAL**—reduces claims and car rejections
- **HIGH GRADE**—encourages Class A lading
- **PROFITABLE**—increases usable boxcar supply
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Freight Liner 810 patches and cleans up cars for foods and feeds, paper products, appliances, a wide variety of lading. Car ends, side walls, even stained floors are reconditioned at minor cost. Remember the name when you write. *ADM Freight Liner 810*, used by most of the major railroads. For more information write or phone Archer-Daniels-Midland Co., 732 Investors Building, Minneapolis 2, Minnesota. FEderal 3-2112.

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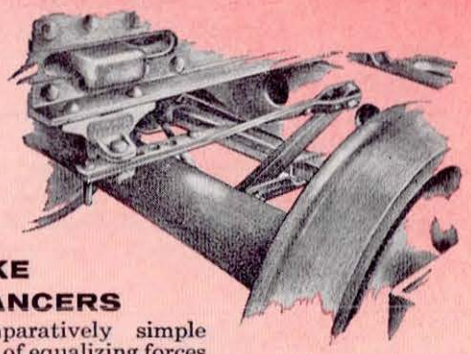
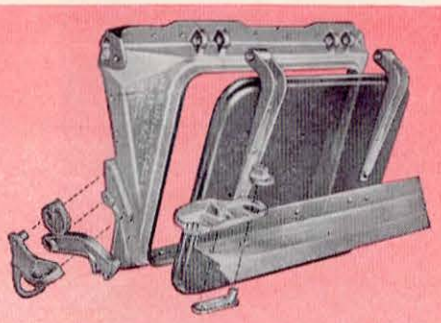
Since 1912, The Wine Railway Appliance Company has designed and manufactured many of the important parts of hopper, gondola, flat and box cars that make this handling function possible, as well as profitable, for the owners and users of the cars. In the years ahead, Wine will continue, through its experience, engineering know-how, and manufacturing skills, to keep pace with the needs of the railway industry.



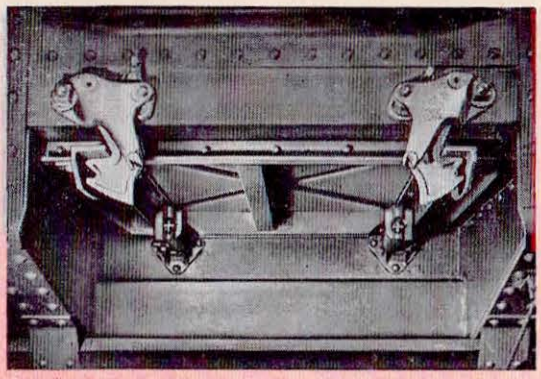
BRAKE BALANCERS

A comparatively simple method of equalizing forces and "balancing" the conventional brake arrangement by replacing the dead lever connection to the truck bolster with the Wine Balancer—connected to the car underframe. A bracket and connector at each end of the center sill flange, engaging the dead lever, balances the brake forces by returning them to the underframe of the car.



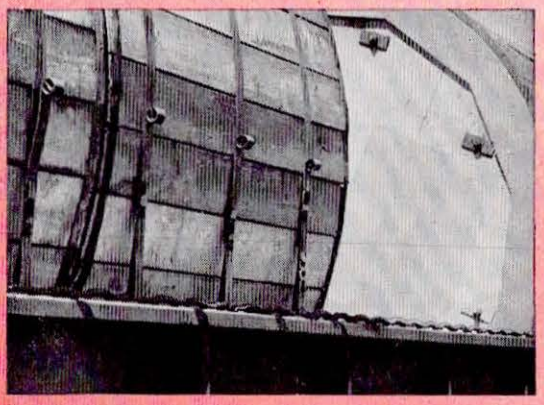
CORRELATED HOPPER UNITS

The one-piece, cast steel frame unitizes each individual hopper into a structurally sound, functional assembly which assures positive door fit. The adjustable locks, cast steel hinges, and symmetrical tapered door flange make possible the *only* adjustable door fit permitting compensation for wear or common irregularities of construction. "Balanced" unloading is assured by dual door operation and a method of controlled flow.



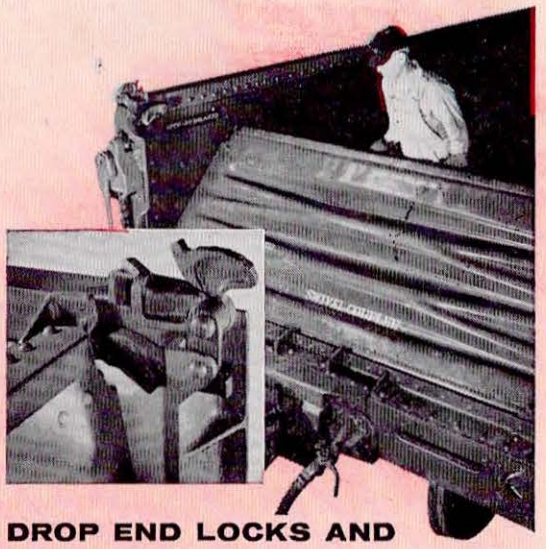
DROP BOTTOM SPRING HINGES AND ADJUSTABLE LOCKS

Drop Bottom Gondolas equipped with these two Wine products provide the shipper and receiver of the lading with a positive closure and afford a fast, economical one-man operation, with selective single or multiple opening of doors.



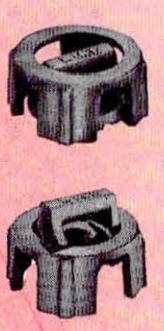
CONTINUOUS LADING BAND ANCHOR

Wine's continuous offset bar for top-coping applications provides a secure anchor for lading bands every 7½ " of its entire length. Permits the use of all types of banding material.



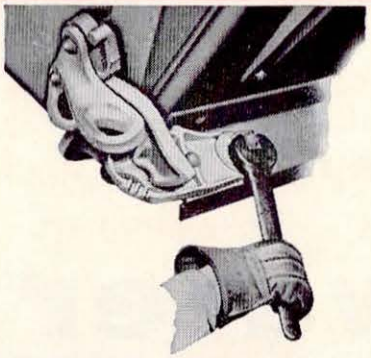
DROP END LOCKS AND END BALANCERS

The *complete* drop end combination from operating and security standpoints! Interlocked corners provide rigidity to keep the sides from spreading under load. The balancer incorporates the hinge function . . . permits a one-man, time and labor saving closure.



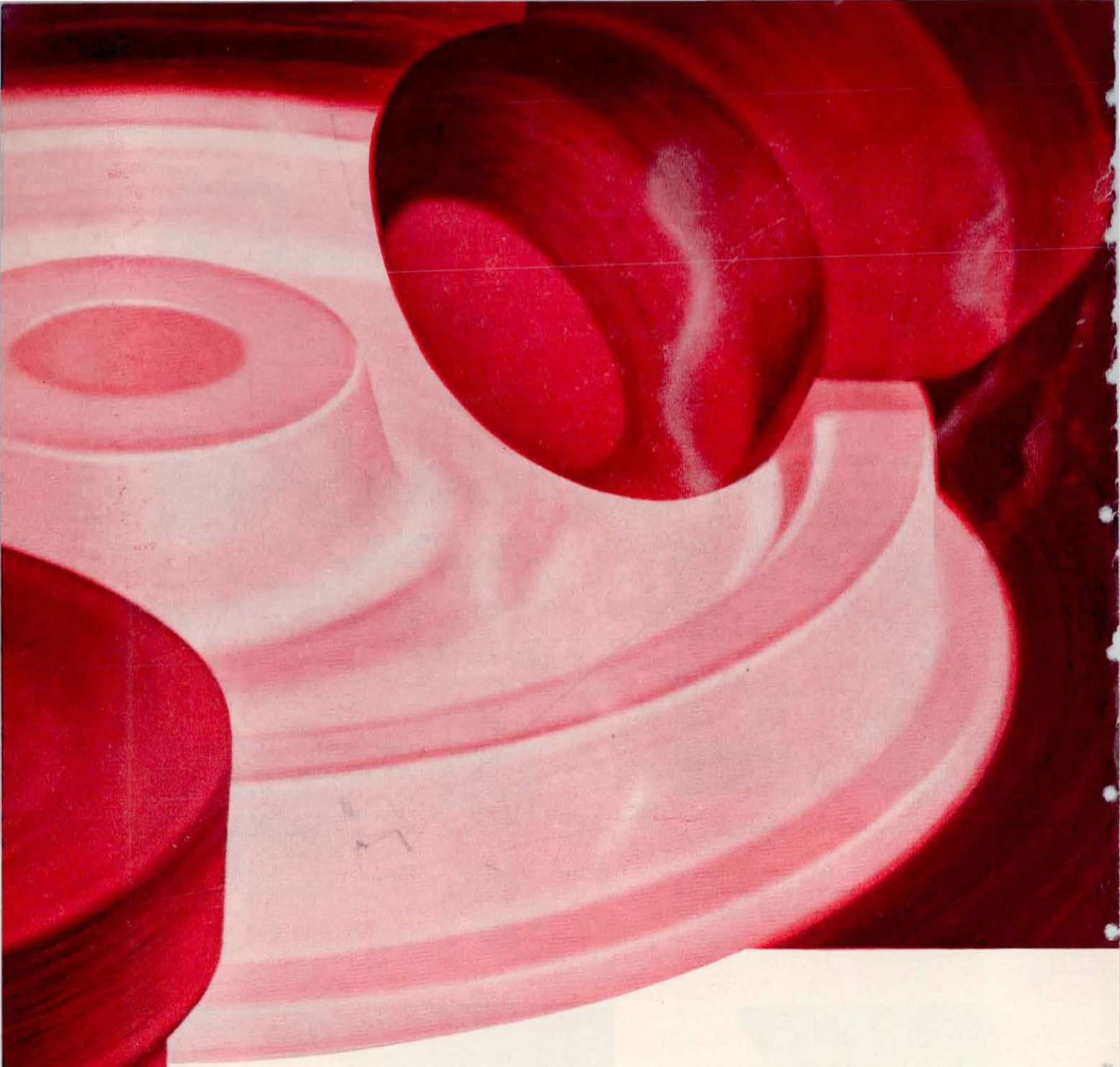
UNIVERSAL LADING BAND ANCHORS

Easily applied on all flat cars and gondolas, the Wine Universal Type Anchor features 360° rotation for tie-ins from any direction. Versatility of use permits welding on coping at important locations as well as mounting in the floor. Drop flush when not in use.



ADJUSTABLE HOPPER DOOR LOCKS

The adjustment feature allows compensation for construction differences and readily permits adjustments necessitated by wear. Wine Adjustable Hopper Locks are adaptable to built-up, structural hopper openings as well as cast steel frames.



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ment. In its adverse effects upon railroads and the costs they must bear, the most important legislation was that amending the Railroad Retirement Act, the Railroad Retirement Tax Act, and the Railroad Unemployment Insurance Act. Public Law 86-28 (H.R. 5610), greatly liberalizing retirement and survivorship benefits as well as the amount and duration of unemployment and sickness benefits, was signed by President Eisenhower on May 19, 1959.

Meanwhile, S. 987, a bill supported by the railroads which would have amended the railroad unemployment system by removing a number of inequities, failed of passage.

S. 987's Provisions

Briefly, S. 987 would have disqualified railroad employees from receiving benefits under conditions which disqualify employees in industries covered by state systems, provided more realistic requirements for eligibility to obtain benefits, and would have awarded benefits in relation to recipient's actual pay loss rather than to his gross pay.

Under the Railroad Retirement Act as now amended, monthly retirement and survivor benefits beginning with the month of June 1959 are increased by 10%. Insurance lump-sum payments based on service of employees who die after May 1959 will also be about 10% higher. Women employees with only 10 years of service and spouses of all retired employees may now receive reduced retirement benefits at age 62. Formerly, 30 years of service by women was required for retirement under age 65, with reduced annuity, and spouses also were required to have attained age 65.

Amendments to the Railroad Unemployment Insurance Act increase unemployment and sickness benefits by about 20% and provide extended duration of benefit payments for certain employees. The base year earning requirement is increased from $400 to $500 and the minimum and maximum under the daily benefit scale are increased from $3.50 and $8.50, to $4.50 and $10.20, respectively. However, the minimum daily benefit rate is increased from 50% of daily rate of pay to 60%, but not to exceed $10.20.

With the current minimum contract wage rate of $2 per hour, the weekly minimum for virtually all employees is $48, while the maximum is $51. The new rates were made retroactive to July 1, 1958, for normal unemployment and sickness benefits, and to January 1, 1958, for extended unemployment benefits.

The new duration provisions extend unemployment benefit periods for employees after they exhaust their regular unemployment benefits. Formerly, the maximum duration was 26 weeks. Employees who have 15 or more years of service can now be paid for as many as 130 additional days (26 weeks) after they exhaust regular unemployment benefits—52 weeks in all. Employees who have 10-14 years of service can be paid for as many as 65 additional days (13 weeks). These provisions were also made retroactive to January 1, 1958.

A further provision permits employees with 10 years of service who become unemployed in a benefit year in which they are not qualified for benefits, to start the next benefit year early if they are qualified for that year. Other amendments provide for temporary extended benefits for employees with less than 10 years of service and virtual elimination of the former waiting period of one week.

Increased payroll taxes were provided to finance the liberalized benefits under both the retirement and unemployment systems. The payroll tax base was increased from average monthly compensation of $350 per employee to $400, effective June 1, 1959. The retirement payroll tax rate, payable each by employer and employee, was increased from 6¼% (the former maximum rate) to 6¾%, beginning with June 1959. In 1962, the rate will rise to 7¼% and after 1964 it will go up by the same percentage points that the social security rate exceeds 2¾%. This means that under the present law the rate will reach a maximum of 9% beginning in 1969.

Increased to 3¾%

The railroad unemployment insurance tax rate, payable solely by employers, was increased from 3% of taxable payroll (the former maximum rate) to 3¾%, effective June 1, 1959. This is the maximum rate under a new schedule for employer tax rates. As before, the rate for any calendar year will depend on the balance in the railroad unemployment insurance account on September 30 of the previous year. The new tax schedule ranges from 1½% when the balance is $450 million or more, to the maximum rate of 3¾% when the balance is less than $300 million.

The increased cost to employers by reason of the increase in payroll taxes for railroad retirement is estimated by the Railroad Retirement Board to be $59,000,000 initially and $185,000,000 per year when the maximum tax rate of 9% is reached in 1969.

The increase in unemployment insurance payroll taxes under the payroll tax rate of 3¾% is estimated at $62 million annually. According to the Railroad Retirement Board, several years' experience with actual operations of the program, as amended, will be necessary before it will be known whether this rate is adequate or inadequate.

Thus, the aggregate increase in employer payroll taxes under the amended retirement and unemployment insurance systems is presently $121,000,000 per year. Assuming continuation of the tax rate of 3¾% for unemployment insurance, the added cost will rise to $247 million by 1969.

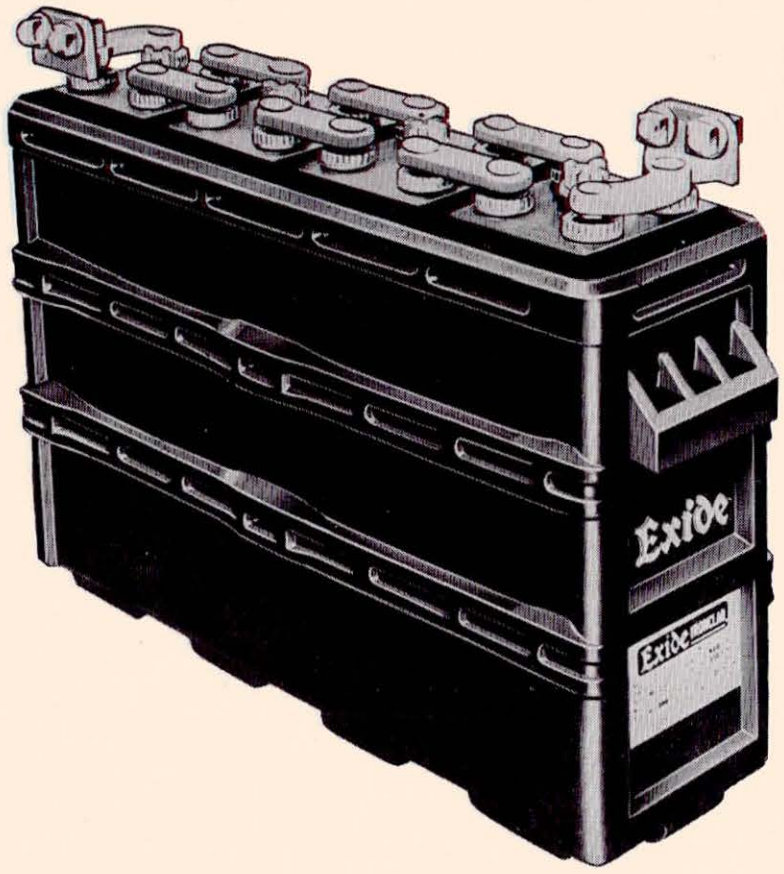
Balance Was Not Enough

At the time of enactment of H.R. 5610, it was evident that the balance in the unemployment insurance account together with immediate tax collections would not be sufficient to meet currently required benefit disbursements. For this reason the amendments also gave the Railroad Retirement Board authority to borrow funds from the railroad retirement account for the railroad unemployment account when the balance in the unemployment account is not sufficient to pay benefits due. When such loans are repaid, interest at 3% per annum is to be paid to the retirement account.

As of September 30, 1959, there was unexpended in the railroad unemployment insurance account the amount of $3,485,248 and $4,953,776 to the credit of the railroad unemployment insurance administration fund. Amounts borrowed from the railroad retirement account together with accrued interest on that date totaled $36,241,217, leaving a net deficit of $27,802,193. Such a deficit assures a continuation of the payroll tax rate of 3¾% throughout 1960 at least.

As of December 28, 1959, a total of $122,236,000 had been transferred from the railroad retirement account to the railroad unemployment insurance account. Of this amount, $44,225,000 with accrued interest of $248,256 had been repaid, leaving a deficit balance of $78,011,000 to be repaid.

(Continued on page 72)



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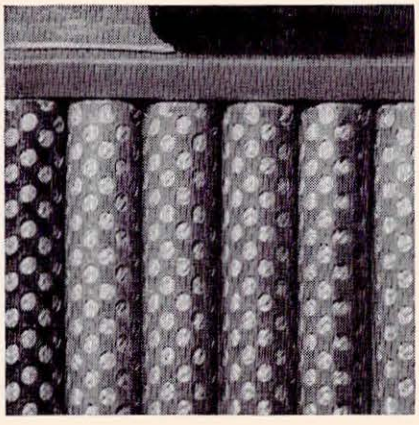

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2 Lower annual cost. The new armored porous tubular construction of the positive plates virtually eliminates loss of active material. So the Exide-Ironclad gives even longer life of service. Your investment goes farther. Annual battery cost is lower. And you get actually superior battery performance as a bonus.

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Reduction in railroad unemployment by reason of the prolonged strike in the steel industry contributed to the drain on unemployment insurance funds. In the first week of November, 69,389 railroad employees had been laid off incident to the steel strike. As of December 11, the number of claims received due to the strike aggregated 332,022. Of these, 316,015 had been paid in amounts totalling $27,439,675.

Excise Tax Relief. On the helpful side, Public Law 86-75, approved June 30, 1959, provides for the reduction to 5%, on and after July 1, 1960, of the 10% tax on amounts paid for transportation of persons. Although no hearings were held by the House or Senate in 1959 on repeal or reduction of this tax, the long-continued efforts of the carriers and others to gain recognition of the harmful effects of this "temporary emergency" tax imposed during World War II no doubt were a principal factor in achieving partial relief from an oppressive burden.

Also in the tax area, Public Law 86-344, approved September 21, 1959, restored the exemption of leased wires which are or may be classified as general telephone service and which connect two stations for which a toll charge would otherwise be made. This exemption of common carriers from the communications tax on amounts paid for leased wires used in the conduct of their business had unintentionally been lost as a result of the Excise Tax Technical Changes Act of 1958.

Senate Resolution 29. As an outgrowth of the Senate hearings that culminated in enactment of the Transportation Act of 1958, the Senate on June 23, 1958, adopted S. Res. 303 providing for a comprehensive study of Federal transportation policies and related problems that had not been dealt with in the 1958 Act. Although little progress was made in the 85th Congress in carrying out S. Res. 303, the Senate on March 9, 1959, agreed to S. Res. 29, further providing for such a study by the Senate Committee on Interstate and Foreign Commerce or a subcommittee thereof. This resolution states that "there is urgent need for a comprehensive study of . . . transportation policy and related problems by the Congress, to the end that sound policies may be evolved."

S. Res. 29 provides that the committee shall report its findings and recommendations for legislation at the earliest practicable date, but not later than January 31, 1960. However, the staff director has publicly stated that the committee does not expect to complete its study by that date.

Pending Bills. Several other important matters considered but not acted upon in the first session of the 86th Congress may receive further attention in 1960.

Hearings were held by the Surface Transportation Subcommittee of the Senate Committee on Interstate and Foreign Commerce on bills to amend or repeal Section 13a of the Interstate Commerce Act, dealing with train discontinuances, which was adopted only the year before as part of the Transportation Act of 1958.

S.1450 would amend Section 13a(1) by requiring the Interstate Commerce Commission to investigate and conduct hearings on every notice filed pursuant to that section and would require continued operation of the train until final disposition of the matter by the Commission. S. 1331 would repeal present Section 13a and place train discontinuances under a proposed new paragraph of Section 1. Where a state has jurisdiction, railroads would have the option either to go to the state commission or to petition the Interstate Commerce Commission for a certificate that public convenience and necessity permit the discontinuance or change in service.

Burden of Proof on RRs

In cases not subject to state jurisdiction, railroads would be required to petition the ICC. The burden of proof would be upon the railroads; the Commission would be required to consider revenues from all freight and passenger traffic within the state or states involved; and the Commission would be authorized to impose job protection conditions for employees adversely affected.

Uncompleted hearings were held by the Surface Transportation Subcommittee of the Senate Committee on Interstate and Foreign Commerce on bills which would remove artificial obstacles to transport diversification: S.1353 (as to motor carriers), S. 1354 (as to air carriers), and S. 1355 (as to water carriers); and on S. 452, "to prohibit the issuance of public certificates of necessity and convenience to certain applicants and for other purposes." The latter bill also contains a provision to make unlawful strikes by employees on one segment of transportation in participation in, or support of, the objectives of employees in another segment of transportation.

Numerous bills were introduced, and hearings were held, to amend the Interstate Commerce Act regarding the Interstate Commerce Commission's authority to fix amounts paid for the use of freight cars not owned by the carriers using them.

S. 1789 and identical House bills, "to insure the adequacy of the national railroad freight car supply," would amend Section 1(14) (a) of the Interstate Commerce Act to change the standards by which the Interstate Commerce Commission is guided in setting the per diem rate. S. 1811 and H.R. 6468, to "provide an incentive for construction and maintenance of an adequate national supply of freight cars," reflecting a recommendation of the Interstate Commerce Commission, would likewise amend Section 1(14) (a) of the Act so as to alter the statutory standards provided for the guidance of the Commission in establishing the per diem rate.

Would Levy Extra Charges

S. 1812 and several identical House bills, "to aid in alleviating shortages of railroad freight cars during periods of emergency or threatened emergency," also reflecting an Interstate Commerce Commission recommendation, would give the Commission authority to impose charges in addition to normal car-rental per diem charges or mileage rates on a carrier using cars other than its own during emergency or threatened emergency, when such additional charges would, in the opinion of the Commission, be reasonably calculated to relieve car shortage or threatened car shortage by promoting expeditious movement, distribution, interchange or return of freight cars.

S. 1964 and H.R. 7633, identical bills on which hearings were held by a subcommiteee of the Senate Committee on Interstate and Foreign Commerce, would amend the Accident Reports Act by providing a new definition of the term "arising from the operation of a railroad" so as to make it include all activities related to the carrier's transportation business. The bills also provide that all accidents resulting in injury, no matter how slight, or in any property damage, would have to be reported.

As it now stands, the Accident Reports Act makes it the duty of each railroad to report monthly to the Interstate Commerce Commission, under

(*Continued on page 74*)

HOW TRI-BELT WORKS. The gear consists of perforated belts of Yoloy "E" nickel-copper high-strength low alloy steel which line the inside of the car. Steel and wood crossbars lock into the perforations to hold the load tightly in place.

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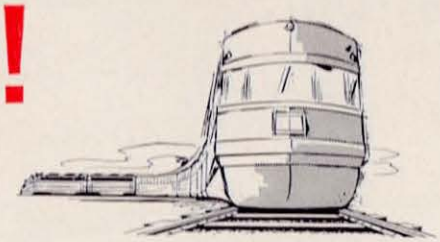

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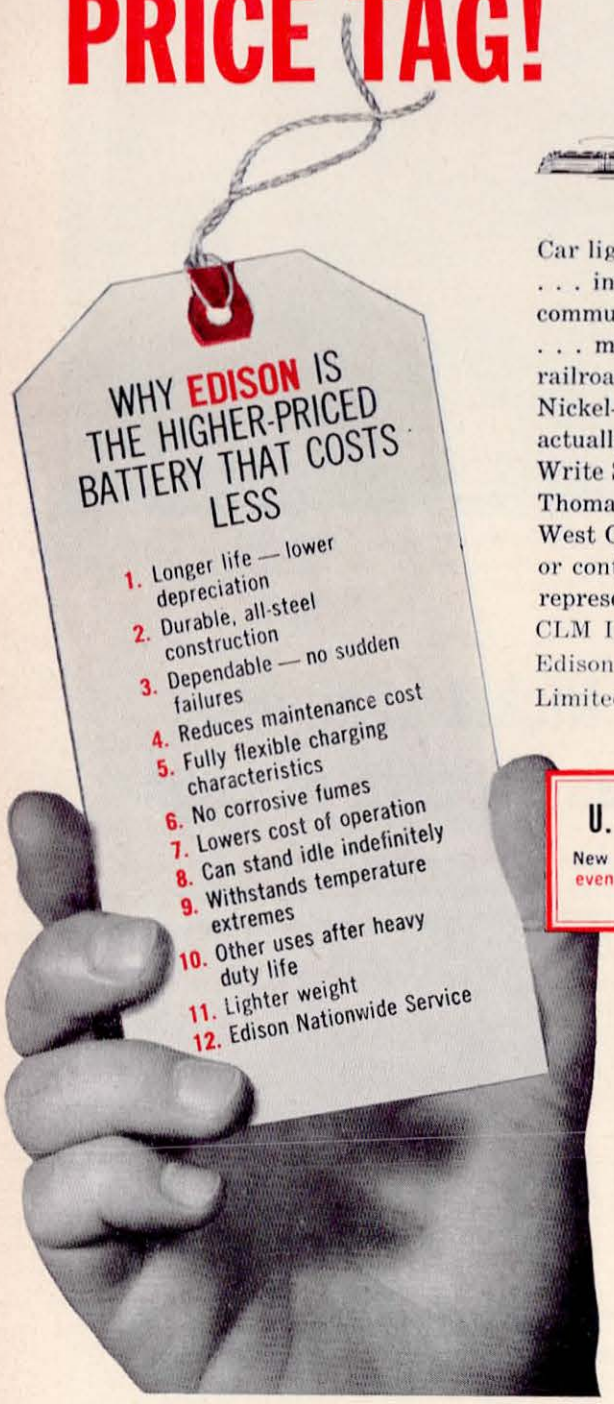
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(*Continued from page 72*)

Commission rules and regulations, all collisions, derailments, or other accidents resulting in injuries to persons or damage to equipment or roadbed arising from operation of a railroad.

The ICC has provided by regulation that accidents "arising from the operation of a railroad" are those involving construction, installation, inspection, protection, operation, and servicing or maintenance of all facilities and equipment. Under regulations of the Commission that term does not relate to sales or traffic work; real estate, industry, forestry, or agricultural development work; legal, financial, statistical, accounting, or public relations work; or similar executive, professional, or clerical work not involving operation of a railroad as an operating entity. The regulations also provide that a reportable injury is one that incapacitates an employee for more than three days during the ten days immediately following the accident that resulted in the injury, and that causes damage to equipment, tracks, or roadbed in excess of $750.

S. 1425 and H.R. 2487, bills represented as safety measures but which in effect would foster make-work practices, would require that track motor cars and other self-propelled vehicles be operated under either "operating rules covering the movement of trains" or other rules to be approved by the Interstate Commerce Commission. Hearings on S. 1425, which is substantially identical with S. 1729 in the 85th Congress, were held before the Subcommittee on Surface Transportation of the Senate Committee on Interstate and Foreign Commerce, but no action was taken.

At hearings on H.R. 2481, it was brought out that this bill to amend certain provisions of the Investment Company Act of 1940 could, as drawn, result in imposing dual regulatory control over railroads by the Securities and Exchange Commission and the Interstate Commerce Commision. The SEC agreed to submit a revised proposal to Congress which would eliminate this possibility of dual control.

Administrative Proceedings

In addition to those referred to elsewhere in this review, investigations and administrative proceedings conducted in 1959 included the following:

Passenger Deficit Investigation. The Interstate Commerce Commission on

May 25 issued its report on the investigation initiated three years before in Docket No. 31954 of the railroad passenger-train service deficit. The Commission found "many and complex" causes of the passenger-service deficits and that the losses are "large, appear to be growing, and endanger the present and future welfare of the railroad industry." Complete elimination of passenger-train service would not be in the public interest, the Commission said, adding that "economic railroad passenger service is, and for the foreseeable future will be, an integral part of our national transportation system and essential for the nation's well being and defense."

Other ICC Findings

Among its other findings from the investigation the Commission concluded that "the railroad wage structure, including work-rules and certain full-crew laws, may unjustifiably involve uneconomic use of labor"; that "comprehensive review of labor-management relations, however complex and difficult, is required"; that because of the "high proportion of labor costs" in railroad operations "their reduction is a major target in any attempt at substantial lowering of operating costs"; that "the impetus given motor and air travel by federal, state and local government promotional programs has unquestionably operated to the disadvantage of railroad passenger service" but that "there is little evidence of any comparable governmental effort to promote the public interest in railroad pasenger service or to prevent or to take into account competitive inequalities that may be induced by such promotional programs"; that "railroads . . . have conscientiously endeavored to improve their standards of service" and "generally have not discontinued trains without serious efforts—sometimes prolonged—to make them pay and only after sympathetic consideration of public convenience"; that "railroad management should develop, on an industry-wide basis, policies and plans for reconstituting railroad passenger service into a less extensive network more closely tailored to the needs of the public"; and that "there is urgent need for development of sound and imaginative pricing policies capable of fully exploiting whatever potential the railroads may have for sharing in the travel market, and whatever possibilities may exist for reasonable financial returns."

On the basis of these and other findings the Commission made the following specific recommendations and strongly advocated their adoption:

"**1.** That the 10 per cent Federal excise tax on passenger cars be repealed.

"**2.** That Federal tax laws be amended to encourage local and State tax relief, at least to the extent of disregarding State and local provided 'pre-tax net income' for Federal tax purposes.

"**3.** That State and local governments take such steps as may be required to effect a greater degree of equity in respect to tax burden on railroad property in relation to taxpayers generally and consistent with the desire of their communities for retention of commuter and other passenger train service.

"**4.** That where the railroads are unable to operate a particular local or commuting service at a profit, and where such service is essential to the community or communities served, that steps be taken by state and local authorities, or both, to provide the service paying the carrier the cost plus a reasonable profit.

"**5.** That the executive departments of the Federal Government consider the implications of the national transportation policy in connection with the procurement of passenger train services by the Post Office Department, Department of Defense and other agencies of the Government.

"**6.** That railroad management take steps to eliminate duplicate passenger trains, terminals and other facilities insofar as will be consistent with the law and the public interest.

"**7.** That experimentation by the railroads with new types of coaches, sleeping cars, dining and other facilities be continued.

"**8.** That railroad management should continue its efforts to improve the attractiveness of railroad passenger service as a means of stimulating more adequate volume of traffic.

"**9.** That railroad management make studies of the elasticity of demand (effect of price on volume of traffic) for railroad passenger service so as to provide a basis for adjustment of fares, adjustment of schedules for convenience of prospective passengers, and systematic, continuous, and higher quality advertising and promotion generally designed to improve public acceptance of rail travel. Every possibility of developing patronage should be fully and continually explored."

In addition to these recommendations the Commission—stating that "on this record, we are convinced that inequalities exist which discriminate against rail carriers and that a comprehensive review and revision of the working rules for railroad employees should be made"—advised that it would be in the public interest for the studies under S. Res. 29 (mentioned elsewhere in this review) to incorporate (1) an exploration of labor-management relations, including a review and revision of work rules for labor employees, and (2) an exploration of those public expenditures which operate to the disadvantage of the railroads.

Report on Transportation for Defense. On July 15, 1959, a special subcommittee at the direction of the chairman of the House Committee on Armed Services began hearings to inquire into the adequacy of transportation systems in support of the national defense effort in the event of mobilization. The unanimous subcommittee report, dated October 10, 1959, covering all forms of transportation among its conclusions and recommendations regarding the railroads, said:

> "The versatility and adaptability of rail transport, as thoroughly demonstrated on a world-wide basis under all kinds of conditions, is but one of the reasons why military logistical planning is built around the railroads for the bulk of its freight and passenger movements. The other forms of transport, important as they are to the total need, are auxiliary and supplemental to the railroads."

The subcommittee further said that while railroads have increased the basic capacity of their facilities since World War II, they have not shared proportionately in the nation's postwar economic growth and prosperity, and throughout this period their earnings have been uneven and relatively low. As a result, the subcommittee explained, railroads are not today in the favorable position they were in 1940 with respect to reserve equipment necessary in the event of an emergency.

Finding that the main reason for shortages and threatened shortages is "financial," the subcommittee recommended that Congress give serious consideration to legislation to ease the railroads' financial difficulties so as to enable them to build up their car supply and otherwise improve their facilities.

Tax Adjustments

Such legislative consideration, said the subcommittee, should embrace tax adjustments for the establishment by the railroads of a construction reserve to facilitate purchase of new equipment, change in depreciation allow-

(*Continued on following page*)

ances on equipment and fixed facilities, and establishment of a self-liquidating Federal agency to purchase and lease certain equipment to the railroads.

An important factor in the railroad situation, the subcommittee also pointed out, is that "policies of the Federal and State governments in providing roads, air terminals, waterways developments and other means of transportation, have operated to the advantage of those other forms of transportation, which advantages are not available to the railroads."

In addition to legislative recommendations to strengthen the financial position of the transportation industry, the sub-committee suggested that all types of carriers also look "to means available to them" for improvement by their own action. In the case of railroads the subcommittee recommended consolidations of roads and traffic to eliminate duplicate facilities, more highly mechanized track maintenance, motorized freight handling, and more centralized traffic control "as soon as possible."

Department of Commerce Transportation Study. In his Budget Message to the Congress on January 19, 1959, President Eisenhower announced that at his direction a comprehensive transportation study was being undertaken by the Secretary of Commerce "to identify emerging problems, redefine the appropriate Federal role, and recommend any legislation or administrative actions needed to assure the balanced development of our transportation system."

In further explanation of the purpose of the study the President declared that "in recent years the Federal Government has had to take actions to meet emergency problems which have arisen in highways, railways, and aviation," even though "these actions have sometimes been taken on a partial and piecemeal basis, without full consideration of the impact on other transportation programs." A report to the President on this study is expected early in 1960.

Railroad Mergers. Led by completion of the union between the Norfolk & Western and the Virginian, railroad mergers continued to be an active subject in 1959.

In its decision on October 13, 1959, approving the N&W-Virginian merger, the Interstate Commerce Commission found that it "will plainly result in a larger, stronger company, better able to meet the challenges faced by the railroad industry and better able to attract and hold competent management personnel."

The roads, in their application to the Commission, had pointed out that the proposed merger "is part of a general and inevitable movement in the railroad industry toward greater efficiency and economy in railroad operations because it is necessary for survival."

Merger of the Charleston & Western Carolina into the Atlantic Coast Line for ownership, management and operation was authorized by the Commission in an order dated December 11, 1959. In its decision, the Commission found that unified operation of the two properties, already under common control, would produce substantial savings in operating expenses.

Since the merger was unopposed and the interests of intervening par-

(Continued on page 78)

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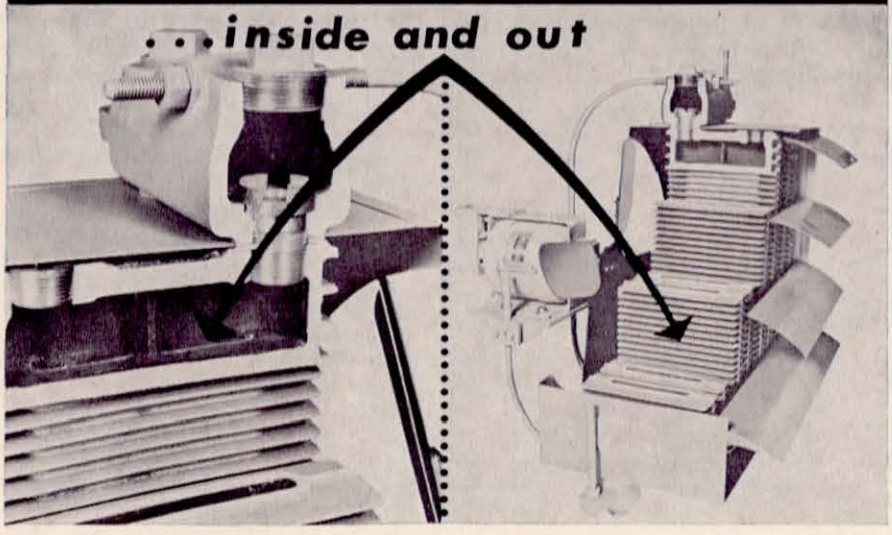

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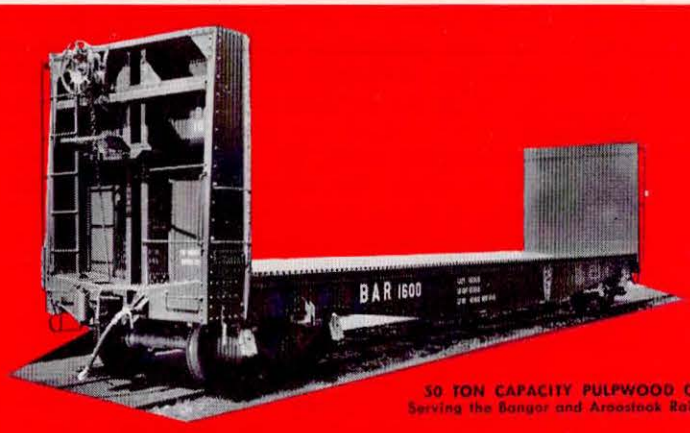

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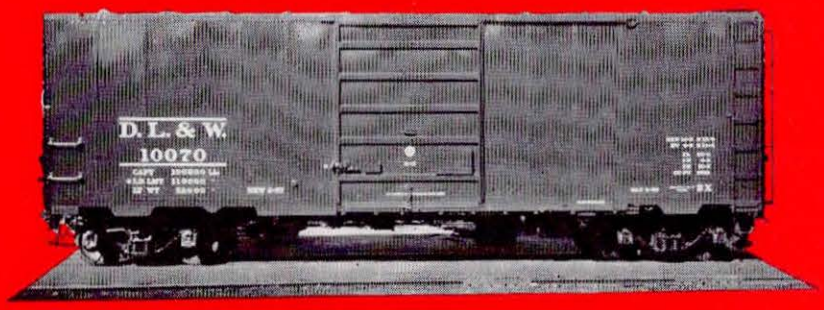

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ties were suitably protected, the Commission was able to dispose of this application without hearings, just 64 days after its filing.

Also approved by the Commission, in a report made public April 29, 1959, was the merger of the Central Pacific into the Southern Pacific Company for continued ownership, management and operation, and the acquisition by the SP of direct control of the Ogden Union Railway & Depot Company, jointly with the Union Pacific, through ownership of capital stock.

Other Merger Proposals

Hearings were completed in the proposed merger of the Erie and the DL&W, and on November 25, 1959, briefs were filed with the Interstate Commerce Commission. The examiner in this proceeding has indicated that it may take the Commission six months to reach a decision. In earlier stages of study and negotiation the Delaware & Hudson had been a party to this merger proposal but withdrew before application for approval was made.

In November 1959 the Rock Island and the Milwaukee announced that merger studies had been initiated by them. Other merger proposals under continuing study include the Great Northern-Northern Pacific-Burlington-Spokane, Portland & Seattle; the Seaboard-Atlantic Coast Line; the Soo Line-Duluth, South Shore & Atlantic-Wisconsin Central; and the New Haven-Boston & Maine-Bangor & Aroostook-Maine Central-Rutland.

Some merger possibilities that were recently studied have been suspended, notably the New York Central-Pennsylvania: the Milwaukee-Chicago & North Western; and the Missouri Pacific-Texas & Pacific.

Piggyback Services. The rapid growth of trailer-on-flat-car services has given rise to proceedings before the ICC to determine the lawfulness of operations under the various plans that have developed.

In I. & S. Docket 6993 the Commission on September 15, 1959, approved freight-forwarder volume commodity rates for piggyback service between Chicago and New York, a proceeding which was an outgrowth of Plan III rates established by the railroads between these points in July 1958.

Utilizing these rates, the freight forwarders proposed reduced rates on volume shipments on the same level as those maintained by principal motor common carriers so as to meet the competition of such carriers. The National Motor Freight Traffic Association has declared its intention to appeal this Commission decision in the courts.

Among other proceedings pending before the Commission in such matters is Docket No. 32533, which involves the legality of Plan III and Plan IV piggyback services. The importance of this case is manifested by the widespread interest of shippers in the extension of piggyback services. Plan III is the transportation of shippers' trailers between rail termini at a flat rate, while Plan IV is essentially the same except that the shipper supplies the flat cars as well as the trailers.

Freight Car Per Diem. Responsive to court mandate and petition of complainant railroads, the ICC by order dated March 24, 1959, reopened the proceeding in Docket No. 31358 for further hearing in its entirety.

In that proceeding the Commission under date of October 17, 1955, found the freight car per diem rates of $1.75, $2.00 and $2.40 to be reasonable compensation during the periods each was in effect. On complaint of the Boston & Maine and other defendants, the U. S. District Court for the District of Massachusetts in an opinion dated April 28, 1958, annulled and set aside the order of the ICC and remanded the proceeding to the Commission for further investigation.

The Supreme Court on November 17, 1958, dismissed without prejudice, pending further investigation by the Commission in compliance with the District Court's remand, appeals from the District Court's decision by B&M and other lines which had contended that determination of a uniform per diem rate to be applied throughout the industry is beyond the Commission's adjudicatory jurisdiction but, rather, lies exclusively within its Section 1(14) (a) rule-making power.

On April 22, 1959, the B&M and other defendants filed a motion to vacate or modify the Commission's order of March 24, 1959, or in the alternative to institute prescriptive action under Section 20 of the Interstate Commerce Act as well as an investigation and rule-making proceeding under Section 1(14) (a) of the Act.

Motion to vacate the Commission's order was denied. The Commission did, however, institute under separate Docket No. 33145 prescriptive action under Section 20 and an investigation and rule-making proceeding under Section 1 (14) (a). These proceedings were ordered to be conducted on a consolidated record with further hearings in Docket No. 31358. Further, the Commission accepted an amended complaint which encompassed the per diem rate of $2.75, which became effective January 1, 1957, into Docket No. 31358.

Special report forms, prepared by the Cost Section of the Commission to elicit information pertinent to the investigation, were served by order of the Commission on individual railroads November 25, 1959. Completed returns must be filed by March 31, 1961.

Under procedures prescribed by the Section 5a agreement, based on a detailed cost study conducted in 1958, the per diem rate of $2.75 was increased to $2.88, effective December 1, 1959.

Locomotive Inspection Rule. In Ex Parte No. 203 the ICC approved a new rule providing for locomotive inspection once each 24 hours, including a liberalizing exception which permits continued operation to the next crew change point after the 24 hours have elapsed. A degree of liberalization for yard locomotives permits inspection once each calendar day rather than on a strict 24-hour basis.

What the Rule Provided

This proceeding had resulted from a changed interpretation of Locomotive Inspection Rule 203 by the Commission's Bureau of Locomotive Inspection. The rule had provided that "Each locomotive and tender shall be inspected after each trip, or day's work . . . " The Bureau of Locomotive Inspection, which for many years had interpreted "trip or day's work" to mean the entire trip of a locomotive from its starting point to the terminal where it is finally detached from its train, changed its interpretation to require an inspection at each crew change point.

Brake Inspection Rule. On July 3, 1958, the Association of American Railroads petitioned the ICC for modification of Paragraph 132.12 of Rules, Standards and Instructions for the Installation, Inspection, Maintenance and Repair of Power or Train Brakes so as to permit individual carriers to obtain relief in special circumstances from the literal language of the rules

(*Continued on page 81*)

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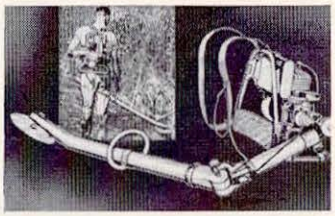

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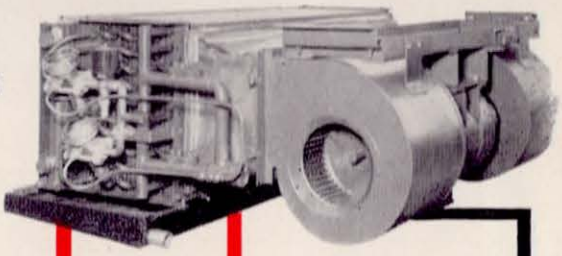

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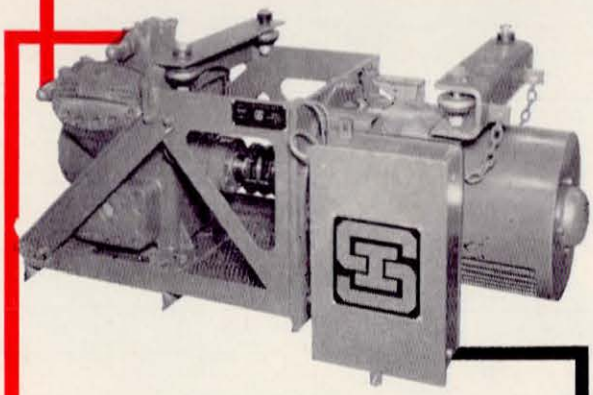
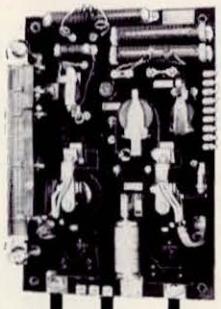
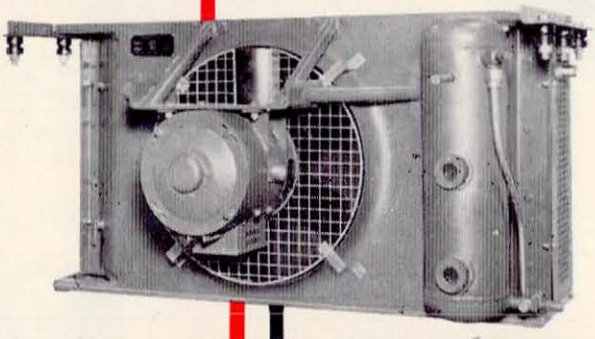


"SAFETY" MOTOR CONTROL PANEL



"SAFETY" DIRECT DRIVEN COMPRESSOR



"SAFETY" AIR COOLED CONDENSER

Safety ELECTRICAL EQUIPMENT CORP.

FORMERLY ELECTRICAL DIVISION OF SAFETY INDUSTRIES, INC.

NEW YORK • CHICAGO • PHILADELPHIA • RICHMOND • ST. LOUIS • SAN FRANCISCO • NEW HAVEN • MONTREAL

Factory and Offices: 1187 DIXWELL AVE., NEW HAVEN 14, CONN.

"SAFETY PRODUCTS INCLUDE: Air-Conditioning Equipment • Genemotors • Generators • Fans • Regulators • Blower Units Switchboards • Motors • Motor Alternators • Dynamotors • Motor Generators • Dual Voltage MG Sets

 (*Continued from page 78*)

requiring intermediate brake inspections at intervals not to exceed 500 miles. Five member roads also filed petitions seeking such relief in special circumstances.

On June 29, 1959, Division 3 of the Commission issued its report and order granting the petition of the AAR but denying those of the carrier parties. Denial was based on the holding that the Act pursuant to which the 500-mile rule was adopted forbids any changes in that or any other rule unless such change can be shown to "achieve [i.e., improve] safety." The carriers had shown that granting of their petitions would improve efficiency without impairing safety.

A petition for reconsideration of this order, filed with the Commission on September 8, 1959, has not been acted upon.

Railroad Loan Guarantees. To provide temporary financial relief to qualifying railroads, the Transportation Act of 1958 authorizes the ICC to guarantee loans up to an aggregate principal amount of $500,000,000. Authority to make such guaranties of loans for additions and betterments and other capital expenditures or for maintenance of property extends to March 31, 1961. As of December 31, 1959, seven railroads had applied for a total of eleven loan guaranties, of which seven in the amount of $52,657,960 had been approved, one had been denied, and three applications amounting to $9,459,400 were pending before the Commission.

Transport Competition

With each passing year there appears to be increasing public recognition that serious competitive handicaps upon the railroads are preventing them from rendering in full measure the economical transportation services they are capable of producing and that the nation requires from these essential carriers. As yet, however, major corrective actions continue to lag far behind such recognition that the competitive disadvantages stemming from unsound policies are adding needlessly to the nation's total transportation bill.

In each year of the postwar period the railroad share of total intercity freight and passenger traffic has declined. As to freight traffic there has been a persistent drop from 66.6% in 1946 to 45.4% in 1958, with indications of further decline in 1959 attributable in considerable part to traffic losses in bulk commodities resulting from the long steel strike.

In the case of passenger traffic, the decline in the rail proportion of total intercity commercial traffic has been even more severe, and as noted elsewhere in this review, has become a matter of widespread public concern. The railroad share of intercity passenger traffic, which fell from 64.2% in 1946 to 30% in 1958, declined still further in 1959.

Certain developments in 1959 affecting the competitive situation of the railroads are discussed in other parts of this review.

In the promotional field, government expenditures continue on a large and increasing scale under various programs for the provision of basic transportation facilities used by competitors of the railroads in their operations, without requiring them to pay compensatory charges for the use of such facilities.

Proposals to initiate user charges upon those who conduct transportation operations on inland waterways improved and maintained at the expense of Federal taxpayers remain in suspense. Also recommendations by President Eisenhower and others to levy charges for the use of the costly Federal Airways System did not progress this year.

Prior to the opening of the St. Lawrence Seaway last spring, a schedule of tolls intended to cover the costs of the project, as required by law, was jointly announced on March 12, 1959, by U.S. and Canadian authorities. Experience during the first season of navigation in 1959 further strengthens doubts that the level of tolls adopted will be sufficient to accomplish self-liquidation of the Seaway costs.

Although traffic through October was 72% greater than the tonnage through the old St. Lawrence Canals between Montreal and Lake Ontario in the same period of 1958, presenting an additional factor of Government-sponsored competition to railroads, it is indicated that toll traffic and revenues for the entire navigation season of 1959 fell about 25% short of the predictions on which the level of toll charges had been based.

Outlook

Having experienced the pressures of an economic recession in 1958 and a four-month steel strike during 1959, railroads need a make-up year in 1960.

Perhaps this will be realized, since there now exists a substantial backlog of demand for heavy goods due to the prolonged steel strike. Gains in excess of 5% in the total national output rate over 1959 are indicated by forecasters. Barring major work stoppages, steel production should lead the way to all-time high levels of economic activity.

Putting aside for the moment the troublesome labor problem, the railroad outlook for the year 1960 may be summarized as follows:

- Freight traffic prospects are improved, with an increase over 1959 indicated in the neighborhood of 8 to 10%. Continuing favorable developments in the area of competitive rate-making would further brighten the freight traffic outlook, but railroads must improve their freight car supply in order to take full and lasting advantage of these favorable prospects.
- Passenger traffic may decline further in 1960. There will be further eliminations of unprofitable passenger trains, and, hopefully, there may be some constructive developments elsewhere in this broad field. Much study, both inside and outside of the railroad industry is being devoted to the railroad passenger problem.

The 1960 financial outlook for railroads is obscure because of pending labor demands and other rising costs. If the employment cost spiral can be checked, net earnings may increase in 1960 over the extremely low levels of the past two years, but they are not likely to regain the modest levels of other postwar peak traffic years.

While great emphasis has been placed on the adverse effects on railroad earnings of the 1958 economic recession and the 1959 steel strike, it should not be overlooked that a third important factor was involved. During 1958 and 1959 railroads incurred new annual labor and other costs aggregating close to half a billion dollars. To better the industry's competitive position, railroads have tried to absorb those new costs without recourse to offsetting rate increases. This endeavor has been successful only in part. Further increases in employment costs would aggravate this already serious problem.

At this time, no one can say with assurance just what the eventual outcome of the current labor negotiations will be Railroads, however, look forward hopefully to an equitable solution to these problems as they face a potentially favorable year.

AN EXCLUSIVE RAILWAY AGE INDUSTRY SERVICE . . .

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CHANGES IN CASH AND CURRENT ASSETS

	Cash & Temporary Cash Investment Sept. 30		Inc. or Dec.	Total Current Assets		Total Current Liabilities		Excess of Current Assets over Liabilities		Inc. or Dec.
	1959	1958	%	End of Sept. 1959	End of Sept. 1958	End of Sept. 1959	End of Sept. 1958	End of Sept. 1959	End of Sept. 1958	%
AT&SF	$158,430,677	$133,962,068	+ 18.3	$226,269,864	$204,578,239	$96,126,164	$89,729,933	$130,143,700	$114,848,306	+ 13.3
ACL	15,947,257	16,521,996	− 3.5	45,511,353	44,266,691	15,711,094	13,963,325	29,800,259	30,303,366	− 1.7
B&O	28,864,158	22,991,564	+ 25.5	86,151,124	90,156,668	55,656,415	56,953,041	30,494,709	33,203,627	− 8.2
B&M	7,048,839	7,475,747	− 4.7	20,032,281	21,045,025	16,773,419	21,109,721	3,258,862	− 64,696	*
ColGa	8,092,349	5,684,179	+ 42.4	14,900,730	11,740,541	7,516,697	5,759,475	7,384,033	5,981,066	+ 23.5
ColNJ	6,635,742	7,000,524	− 5.2	16,504,909	15,948,773	10,048,477	9,908,134	6,456,432	6,040,639	+ 6.9
C&O	61,557,163	48,111,809	+ 27.9	111,899,036	102,433,761	53,526,320	55,219,991	58,372,716	47,213,770	+ 23.6
C&EI	1,637,558	792,361	+106.6	7,392,317	6,571,972	7,928,751	6,862,602	− 536,434	− 290,630	*
C&NW (incl. CStPM&O)	9,912,879	15,075,894	− 34.2	43,037,142	50,183,834	47,130,212	48,937,818	− 4,093,070	1,246,016	*
CB&Q	34,556,541	38,210,879	− 9.6	78,953,984	78,278,230	37,344,124	36,671,093	41,609,860	41,607,137	+0.007
CGW	4,859,492	5,916,490	− 17.9	9,851,290	10,362,698	5,717,450	6,162,012	4,133,840	4,200,686	− 1.6
CMStP&P	24,859,788	26,149,238	− 4.9	65,288,845	68,579,497	42,382,203	43,533,223	22,906,642	25,046,274	− 8.5
CRI&P	25,842,433	30,135,069	− 14.2	58,651,547	60,851,475	36,104,605	28,990,494	22,546,942	31,860,981	− 29.2
D&H	12,307,213	12,603,298	− 2.4	20,007,919	20,868,261	4,932,508	4,862,809	15,075,411	16,005,452	− 5.8
DL&W	12,409,839	3,083,046	+302.5	25,653,349	17,654,649	11,011,345	13,957,646	14,642,004	3,697,003	+296.1
D&RGW	26,734,894	25,253,322	+ 5.9	41,755,823	40,967,433	15,894,973	18,200,723	25,860,850	22,766,710	+ 13.6
DM&IR	8,300,083	1,358,219	+511.1	14,735,460	10,105,283	8,022,450	12,067,629	6,713,010	− 1,962,346	*
EJ&E	13,236,472	13,023,613	+ 1.6	17,173,188	16,248,779	10,980,958	12,461,600	6,192,230	3,787,179	+ 63.5
Erie	12,287,714	13,907,629	− 11.6	32,943,813	35,718,760	25,561,121	26,928,273	7,382,692	8,790,487	− 16.0
GTW	1,549,825	2,718,942	− 43.0	10,196,029	11,642,047	6,415,822	7,411,228	3,780,207	4,230,819	− 10.7
GN	62,538,478	51,607,037	+ 21.2	104,482,982	97,841,342	35,921,451	35,000,150	68,561,531	62,841,192	+ 9.1
GM&O	23,205,100	18,379,379	+ 26.3	39,141,478	35,812,282	20,456,161	18,899,507	18,685,317	16,912,775	+ 10.5
IC	59,679,245	46,649,359	+ 27.9	95,868,008	84,446,322	40,613,257	37,348,385	55,254,751	47,097,937	+ 17.3
LV	2,083,498	3,992,430	− 47.8	9,461,791	12,593,273	7,046,115	8,499,127	2,415,676	4,094,146	− 41.0
LI	3,988,785	3,722,226	+ 7.2	9,503,251	10,016,038	11,134,318	10,054,132	− 1,631,067	− 38,094	*
L&N (incl. NC&StL)	35,249,385	31,803,867	+ 10.8	79,383,147	78,346,910	30,987,012	27,441,099	48,396,135	50,905,811	− 4.9
MStP&SSM	5,905,433	5,461,409	+ 8.1	15,420,897	16,144,692	9,760,301	9,071,447	5,660,596	7,073,245	− 20.0
MKT	8,266,396	9,938,028	− 16.8	18,894,491	20,544,348	10,654,142	10,650,027	8,240,349	9,894,321	− 16.7
MP	45,384,717	36,482,704	+ 24.4	81,861,531	74,692,126	56,991,418	48,416,509	24,870,113	26,275,617	− 5.3
NYC	60,381,383	57,718,276	+ 4.6	132,374,932	135,748,748	119,137,870	115,035,433	13,237,062	20,713,315	− 36.1
NYC&StL	34,950,719	28,576,993	+ 22.3	52,500,569	48,062,429	25,660,477	24,757,483	26,840,092	23,304,946	+ 15.2
NYNH&H	8,045,383	8,584,382	− 6.3	28,398,504	28,593,001	33,707,759	30,682,808	− 5,309,255	− 2,089,807	*
N&W	68,801,487	37,437,664	+ 83.8	100,251,574	78,774,270	32,640,004	25,752,292	67,611,570	53,021,978	+ 27.5
NP	68,513,083	52,223,017	+ 31.2	112,923,760	97,866,482	41,405,363	39,413,561	71,518,397	58,452,921	+ 22.4
PRR	84,099,750	80,631,899	+ 4.3	207,554,084	203,323,728	132,121,278	129,778,645	75,432,806	73,545,083	+ 2.6
P&LE	6,680,363	9,431,243	− 29.2	11,954,374	14,623,132	6,300,002	7,289,039	5,654,372	7,334,093	− 22.9
Reading	12,265,349	10,929,104	+ 12.2	27,923,141	28,102,013	18,898,584	18,432,686	9,024,557	9,669,327	− 6.7
StLSF	14,010,281	12,638,861	+ 10.9	34,034,691	30,240,991	20,745,690	17,300,172	13,289,001	12,940,819	+ 2.7
StLSW	9,613,282	25,290,671	− 62.0	15,812,154	31,529,835	12,088,984	10,422,237	3,723,170	21,107,598	− 76.4
SAL	21,007,525	15,894,690	+ 32.2	44,336,796	38,813,975	23,431,712	20,168,709	20,905,084	18,645,266	+ 12.1
Southern	60,481,717	52,919,003	+ 14.3	90,255,404	82,853,800	52,902,222	44,255,214	37,353,182	38,598,586	− 3.2
SP System	145,009,678	104,187,896	+ 39.2	237,324,367	195,538,721	137,950,899	113,476,808	99,373,468	82,061,913	+ 21.1
T&P	14,067,713	10,856,624	+ 29.6	25,150,962	22,744,829	9,074,592	7,362,942	16,076,370	15,381,887	+ 4.5
UP	97,980,216	100,332,490	− 2.3	174,573,853	182,023,543	102,405,209	98,050,844	72,168,644	83,972,699	− 14.1
Wabash	10,156,281	9,536,149	+ 6.5	23,687,582	23,668,653	18,543,360	17,290,052	5,144,222	6,378,601	− 19.4

* Current liabilities exceeded current assets in one or both years.

(Continued on page 84)

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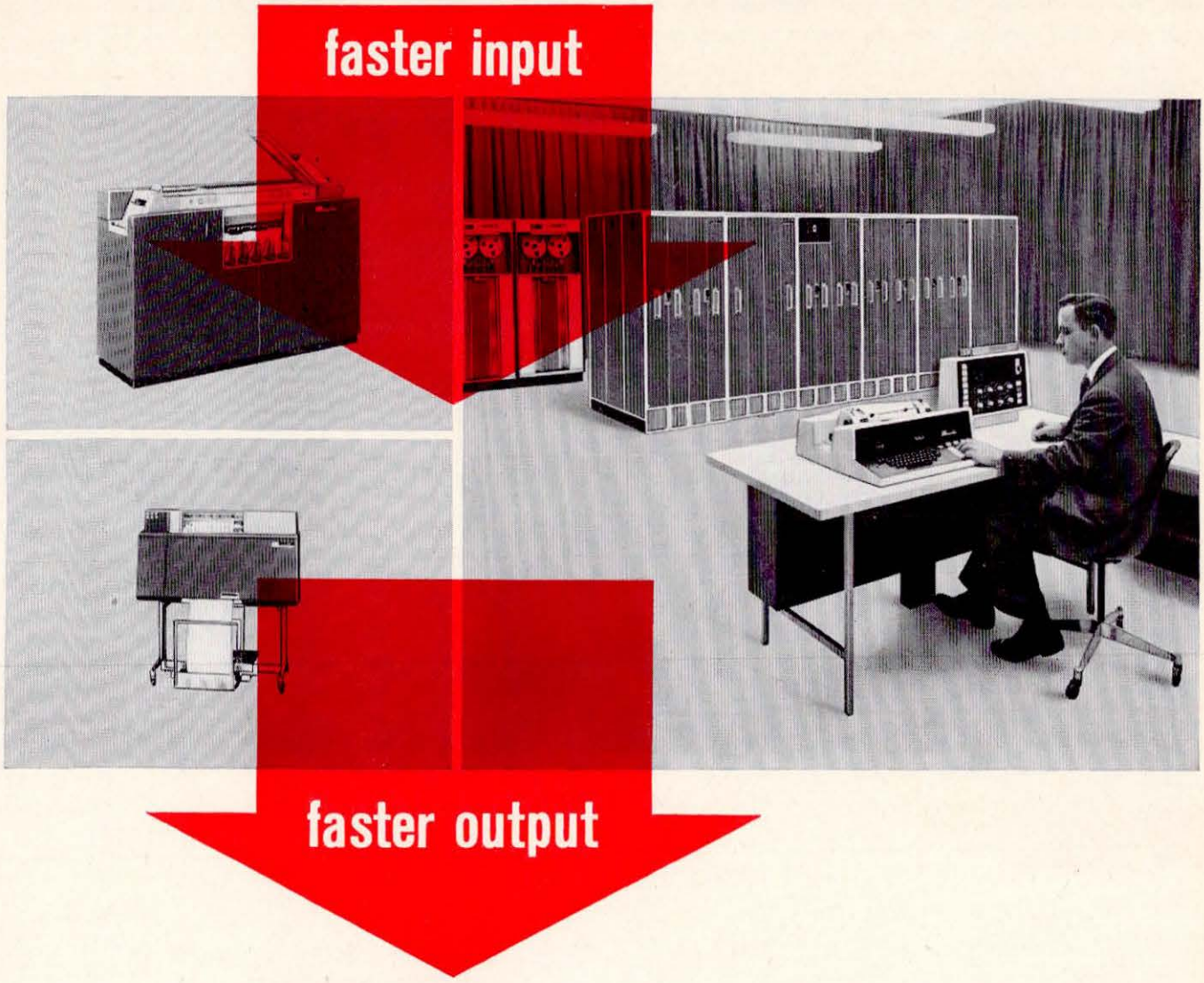

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The tape-oriented 7070 employs the 1401 System to boost card-to-tape conversion from 500 to 800 cards a minute. The 1401 also features an exclusive horizontal chain printer that turns out crisp, perfectly aligned copy at 600 lines a minute. This unique printer moves paper at magnetic tape speeds—up to three and a half times faster than conventional printers!

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For full information on the new tape-oriented 7070 call your IBM representative. Like all IBM equipment, the 7070 System may be either purchased or leased.

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BALANCED DATA PROCESSING

(Continued from page 82)

TRAFFIC CONTROL SYSTEMS INSTALLED IN U.S.A. AND CANADA

Over 2,000 road miles were equipped with traffic control systems during 1959, the largest annual mileage ever reported to Railway Age. Canadian National led with over 700 miles installed, and the Southern Pacific came in second with over 300 miles. Much of the CNR's CTC is modified with a spring switch at one end of a siding and a power switch at the other end. Information on spring switches in CTC is included for the first time.

Railroad and Location	Miles	Power Switches	Spring Switches: With Facing Point Lock	Spring Switches: Without Facing Point Lock	Electric Locks	Controlled Signals	Automatic Signals	Mfr.
AT&SF								
E. Ft. Madison-E. Shopton, Iowa	3.5d	..	..	..	6	..	4	US&S
W. Shopton, Iowa-Medill, Mo.	28.7d	10	..	..	7	16	32	US&S
Strong City, Kan.-Neva	4.1s	..	..	1	..	..	2	US&S
Pampa, Texas	2.6d	5	..	..	9	5	3	US&S
Abajo, N.M.-Isleta	11.0s	5	..	..	11	13	6	US&S
Rowe, N.M.-Lamy	16.0s	2	..	6	1	24	15	US&S
ACL								
Dunnellon, Fla.-N. Croom	36.6s	8	..	..	12	22	13	US&S
Vitis, Fla.-Tampa	28.5s	5	..	..	19	10	13	US&S
B&M								
Somerville Jct., Mass.-Hill Crossing	2.6s	..	..	..	9	7	2	GRS
Concord, N.H.	0.7s	2	..	..	..	3		GRS
CNR								
Dugald, Man.-Redditt, Ont.	112.7s	14	..	13	4	42	41	GRS, US&S, SGE
Winnipeg Man.-Dugald	6.9s	1	..	1	2	4	2	GRS
Boston Bar, B.C.-Port Mann	114.9s	17	..	13	10	49	36	GRS
Capreol, Ont.-Foleyet	148.3s	17	..	15	3	68	32	GRS, US&S, SGE
Hornepayne, Ont.-Nakina	131.6s	18	..	13	7	67	31	GRS, US&S, SGE
Coteau, Que.-Hawthorne, Ont.	73.0s	8	..	8	13	32	14	GRS, SGE
Napadogan, N.B.-Edmundston	113.0s	16	..	10	8	58	26	GRS, US&S, SGE
CPR								
Trenton, Ont.-Port Hope	41.4s	8	..	..	5	28	22	GRS
Moose Jaw, Sask.-Emfold	65.1s	18	..	..	5	44	32	US&S
Revelstoke, B.C.-Taft	23.1s	7	..	..	..	21	12	GRS
CofG								
Barnesville, Ga.-Irving	15.0s	..	..	..	4	2	7	US&S
C&O								
Sandstone, W.Va.-Prince	13.1d	29	..	..	14	47	17	US&S
Hinton, W.Va.-CW Cabin	1.9d	2	..	..	..	4	..	US&S
Shelby Jct., Ky.-Elkhorn City	15.6s	7	..	..	18	27	13	US&S
Trowbridge, Mich.-Lansing	2.6s	..	..	..	4	..	2	GRS
CB&Q								
Congress Park, Ill.-Downers Grove	8.1t	8	..	..	10	19	8	GRS
Kansas City, Mo.-St. Joseph	51.1s 3.7d	13	..	..	15	65	26	US&S
CMStP&P								
E. Madrid, Iowa-Collins	24.0s	7	..	..	..		..	...
D&H								
Buttonwood, Pa.-Hudson	5.7s&d	5	..	..	..	11	2	GRS
Carbondale, Pa.-W. Carbondale	2.0d	4	..	..	..	5	..	GRS
Ballston Spa, N.Y.-Saratoga Springs	13.4s,d,t	19	..	..	9	29	7	GRS
D&RGW								
Avon, Colo.-Bond	60.0s	14	2	..	11	34	27	GRS
DL&W								
E. Lincoln Park, N.J.-Montville	6.1s	4	..	..	2	6	5	US&S
Port Morris, N.J.-Slateford, Pa.	25.0s	8	..	..	2	16	20	US&S
DM&IR								
Biwabik, Minn.-Largo	7.7s	4	..	..	5	12	5	US&S
	8.5d	5	..	..	5	15	3	US&S
ERIE								
Elmira, N.Y.-W. Elmira	1.9d	6	..	..	1	9	..	US&S
Huntington, Ind.-Round Lake	20.3s	1	..	..	5	9	6	US&S
Round Lake, Ind.-Akron	10.3d	1	..	..	3	5	8	US&S
GTW								
Battle Creek, Mich.	2.4s	6	..	..		10	..	US&S
GN								
Brookston, Minn.-Gunn	51.0s	16	1	..	4	44	..	GRS
Wheelock, N.D.-Epping	5.2s	2	..	..	1	6	..	GRS
Dodson, Mont.-Pacific Jct.	75.6s	25	..	..	23	53	..	GRS
GM&O								
Mazonia, Ill.-Pequot	4.1s 2.7d	1	..	..	..	7	3	GRS
NYC								
Jackson, Mich.-Rives, Jct.	5.0s	2	2	..	2	6	8	GRS
N&W								
S. Norfolk, Va.-Gilmerton	5.0d	10	..	..	6	23	..	US&S
Petersburg, Va.-Camp Lee Jct.	2.7s	..	1	..	..	3	..	US&S
Belspring, Va.-Eggleston	6.8s	2	..	..	1	6	4	US&S
Shepherdstown, W.VA.	....	1	..	..	..	1	..	US&S
Berryville, Va.	....	1	..	..	..	1	..	US&S
Ashby, Va.	....	1	..	..	..	1	..	US&S
Waynesboro, Va.	....	2	..	..	..	..	..	US&S
Carbo, Va.	....	..	..	..	..	2	..	US&S
Omega, Ohio-Lunbeck	10.0s	3	..	..	..	6	6	US&S
NP								
Garrison, Mont.-Missoula	67.0s	17	1	..	16	64	42	GRS
PRR								
Milton, Pa.-Williamsport	24.2s	5	..	..	9	15	11	US&S
Nisbet, Pa.-Pine	9.8s	1	..	..	2	3	2	US&S
Columbus, Ohio	0.4s	..	..	..	1	1	..	US&S
QNS&L								
Sept Iles, Que.-Knob Lake-Schefferville	....	6	..	..	3	18	5	GRS
READING								
Barnesville, Pa.-E. Mahanoy Jct.	0.7s	1	..	..	1	3	..	US&S
StL-SF								
W. Cherokee, Okla.-Norris	1.7d	1	..	..	..	4	..	US&S
Norris, Okla.-Oma	5.0s	..	..	..	..	..	2	US&S
Oma, Okla.-Sapulpa	1.5d	1	..	..	3	4	..	US&S
SAL								
Hermitage, Va.-Richmond	2.9d	2	..	..	2	4	4	US&S
	1.1s	..	..	..	..	..	1	US&S
SOUTHERN								
Springfield, Va.-Bristow	19.4d	12	..	..	11	12	34	GRS
SP (Pacific Lines only)								
Massie, Nev.-Perth	47.0s	11	..	..	..	36	30	US&S

(Continued on page 87)

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The phenomenal BALLAST REGULATOR, SCARIFIER AND PLOW (Track Patrol), a highly versatile machine adaptable to a dozen or more trackwork jobs, is operated by only ONE MAN. It has proven itself time and time again on America's Railroads, and its acceptance is emphasized by many repeat orders. Here is a partial list of owners of the KERSHAW BALLAST REGULATOR, available in both Standard and Heavy Duty Models.

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**Atlantic Coast Line
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Bangor and Aroostook
Bailes-Sey
Bessemer & Lake Erie
Birmingham Southern
Boston & Maine
*****Canadian National
**Canadian Pacific
Central Do Brazil
*Central of Georgia
Central Vermont
**Chespeake & Ohio
Chicago & Eastern Illinois
**Chicago & Northwestern
Chicago, Burlington & Quincy
Chicago Great Western
**Chicago, Milwaukee, St. Paul & Pacific
Chicago, St. Paul, Minneapolis & Omaha (Chicago & NW)
Clinchfield
Consolidated Railroad of Cuba
Davenport, Rock Island & North Western
Delaware & Hudson
Delaware, Lackawanna & Western
Denver, Rio Grande & Western
DeQueen & Eastern
Detroit & Mackinac
Detroit, Toledo & Ironton
Duluth, South Shore & Atlantic
Elgin, Joliet & Eastern
Erie
Ferguson & Edmondson
Ferrocarril Del Pacific
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Gibson, J. W., Contractor
Government of Israel
Grand Trunk Western Railways
Great Northern
*Gulf, Mobile & Ohio
Interstate
Kennecott Copper Company
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Louisiana Midland
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Mannix Ltd., Contractors
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Norfolk & Western
Northern Alberta
*Northern Pacific
Northwestern Pacific
Minneapolis & St. Louis
Missouri-Kansas-Texas
Ohio Equipment Company
Pacific Electric
***Pennsylvania
Phelps-Dodge Corporation
Pilot, L. E., Contractors
Pittsburg & Lake Erie
Pittsburg & West Virginia
Quebec, North Shore and Labrador
Queen City Railroad Construction Company
*Reading
Richmond, Fredericksburg & Patomac
Scholes, T. F., Contractors
**Seaboard
Smith Contracting Company
**St. Louis-San Francisco
St. Louis Southwestern
*****Southern
***Southern Pacific
Tennessee, Alabama & Georgia
Tennessee Central
**Texas & New Orleans
Terminal Railroad Association of St. Louis
Texas & Pacific
Toledo, Peoria & Western
Union
Union Pacific
United Plastics, Ltd.
Virginian
Wabash
Western Maryland
Western Pacific
Wikstrom, A. S., Inc.

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**10 to 19 Machines
***20 to 29 Machines
****30 to 30 Machines
*****40 And More Machines

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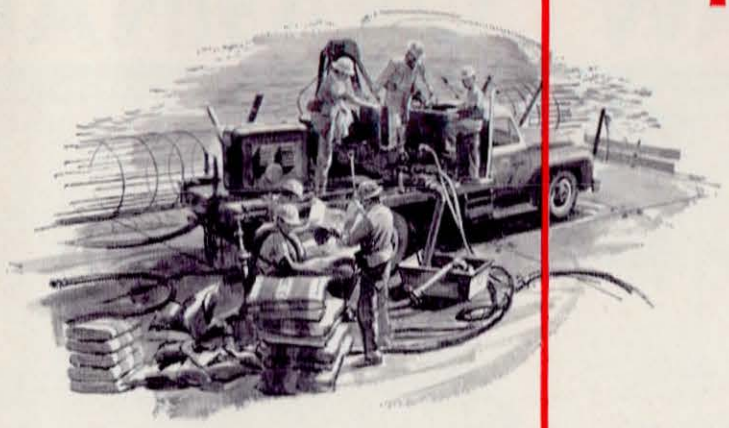

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Los Angeles, Calif.	HU 3-2302
Lubbock, Texas	PO 5-5725
New Orleans, La.	JA 2-0304
Houston, Texas	CA 7-8164
Dallas, Texas	RI 1-3841
Shreveport, La.	2-9523
Denver, Colorado	AL 5-0461
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Halliburton's successful grouting record is due to its experienced grouting engineering service personnel and the latest scientific grouting developments within its own technical, development laboratory.

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New dams . . . sealing foundations and forming cut-off walls.

STABILIZATION OF UNCONSOLIDATED SAND AND SOIL . . .
Building Foundations, Compressor Station Foundations, Tunnels, Railbeds, Ground Water Control

MINING . . . **Shaft Water Control, LPG Storage Caverns**

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Write for your copy of the new "Halliburton Pressure Grouting Service" Brochure No. PGS-0002.

(Continued from page 84)

Railroad and Location	Miles	Power Switches	Spring Switches: With Facing Point Lock	Spring Switches: Without Facing Point Lock	Electric Locks	Controlled Signals	Automatic Signals	Mfr.
Mescal, Ariz.-Lordsburg, N.M.	124.1s	39	1	2	14	122	106	US&S
Lordsburg, N.M.-Anapra	140.5s	34	..	..	9	100	130	US&S
Corporal, Cal.-Logan	6.7s	..	2	..	1	4	6	US&S
Tucson, Ariz.-PFE Yard	2.5s	6	2	..	3	10	2	US&S
Tresend, Utah-Bridge	12.6s	3	..	..	1	9	12	US&S
T&P								
Dothan, Tex.-Clyde	25.0s	7	..	..	..	18	..	GRS
UP								
Reverse, Idaho-Glenns Ferry	15.0d	9	..	..	4	24	24	US&S
Nampa, Idaho-Orchard	44.0s	7	..	..	36	28	50	US&S
WABASH								
Lodge, Ill.-Gibson City	25.0s	4	..	..	13	9	..	US&S
	1,855.3s 143.5d 8.1i	536	12	82	405	1,485	986	
Road Miles	2,0006.9							

AUTOMATIC BLOCK SIGNALS, TRAIN STOP AND CAB SIGNALS INSTALLED IN U.S.A. AND CANADA

Gains in wayside train stop equipment installations were due to signal construction and modernization programs on the Boston and New York subways. Lackawanna trains using Erie-DL&W joint trackage between Binghamton and Gibson, N.Y. (about 76 miles) were equipped with intermittent inductive train stop. The DL&W so equipped 93 locomotives in 1959. The Jersey Central has equipped 81 units of rolling stock, including some RDC cars, with train stop equipment to be actuated by subway-type mechanical trips. The trips were installed on the Passaic river and Newark bay drawbridges. Recommendations for the trips and train stop equipment were made by the New Jersey Public Utilities Commission after a 1958 accident in which a JCL commuter train ran through the open Newark bay drawbridge killing 48 persons.

Railroad	Location	Miles of Road	Block Signaling: Signals	Block Signaling: Electric Locks	Train Stop: Rolling Stock	Train Stop: Wayside Units	Cab Signals Rolling Stock	Mfg.
B&M	Newton Jct., N.H.	1.2d	2	..	..	..	..	GRS
	Clinton, Mass.	1.7d	2	..	..	..	..	GRS
	Concord, N.H.	0.7d	2	..	..	..	..	GRS
	Gloucester, Mass.	0.9s	2	..	..	..	..	GRS
	Beverly, Mass.	3.3d	2	..	..	..	..	GRS
	Portsmouth, N.H.	0.9s	2	..	..	..	..	GRS
CRI&P	Chicago, Ill.—Joliet	....	..	..	..	..	2	US&S
CTA	Chicago, Ill.	1.0d	13	..	..	..	..	US&S
DL&W	Scranton, Pa.—Taylor	2.5t	7	..	..	..	..	US&S
	Cayuga, Pa.—Clarks Summit	4.0s	2	..	..	..	..	US&S
	Binghamton, N.Y.—Gibson	....	..	..	93	..	..	....
EJ&E	Griffith, Ind.—Van Loon	2.8d	2	..	..	..	..	GRS
ERIE	Waverly, N.Y.—Big Flats	....	..	3	..	..	..	US&S
JCL	Elizabethport, N.J.—Bayonne—Kearney	1.5f	..	..	81	10*	..	US&S
	* Mechanical trip-type stop							
MEC	Winthrop, Me.—Waterville	28.6s	28	..	..	..	..	GRS
MTA	Dorchester, Mass.—South Boston	0.8d	10	..	..	10	..	US&S
	Cambridge, Mass.	1.9d	23	..	..	23	..	US&S
	Boston, Mass.—Newton	9.5d	54	3	..	..	..	US&S
NYCTA	DeKalb Ave., BMT New York	1.0f	9	..	..	9	..	GRS
	Lexington Ave., IRT	1.1f	18	..	..	18	..	US&S
	Broadway—7th Ave. IRT	1.5d	43	..	..	43	..	US&S
NP	Big Lake, Minn.—St. Cloud	26.0d	28	..	..	..	..	GRS
	White Bear, Minn.—Gloster	6.0s	11	..	..	..	..	GRS
	Humphrey, Wash.—Kanaskat	12.0s	25	2	..	..	..	GRS
ONL	Swastika, Ont.—Bourkes	20.0s	27	1	..	..	..	....
CYofPA	Philadelphia, Pa.	3.0d	45	12	..	40	..	US&S
SOU	Knoxville, Tenn.—Coster	1.0s	2	..	..	2	..	....
SP&S	Cliffs, Wash.	1.6s	2	..	..	..	..	GRS
UP	Council Bluffs, Iowa	0.5s	2	..	..	..	..	US&S
	Totals	75.5s 53.4d 2.5t 3.6f	363	21	174	155	2	

Road Miles 135.0
Track Miles 204.2

ROAD TRAIN RADIO INSTALLED IN U.S.A. AND CANADA IN 1959

Although down in one category, (cabooses and other cars), road train radio installations made gains over 1958. A more detailed breakdown of such installations is available this year, showing particularly the number of M/W units equipped. The growing use of walkie-talkies is due primarily to roads providing the portable radios on locomotives and cabooses, in addition to the permanently mounted equipment.

Railroad	Locomotives Equipped	Cabooses and Other Cars	Wayside Stations	Walkie-Talkies
AT&SF	385	67 Cabooses	10	8
	..	16 Autos	..	..
	..	2 M/W	..	..
ACL	73	35 Cabooses	..	108
	..	2 Office Cars	..	..

(Continued on page 89)

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Trenton 7, New Jersey

Railroad	Locomotives Equipped	Cabooses and Other Cars	Wayside Stations	Walkie-Talkies
B&LE	..	.....	1	5
B&M	..	1 Auto	2	..
	..	1 M/W	..	..
CofG	5	1 M/W	3	21
C&EI	..	1 Auto	5	4
CB&Q	29	.....	15	31
CGW	10	1 Auto	..	..
CMStP&P	65	1 Auto	7	..
	..	1 Insp. Car	..	..
CRI&P	24	30 Cabooses	8	..
	..	6 Autos	..	..
C&S	4	.....	..	7
D&H	..	10 Cabooses	1	..
D&RGW	..	11 Cabooses	..	..
DM&IR	26	6 Autos	2	1
	..	7 Motor Cars	..	..
DSS&A	..	.....	1	..
Erie	..	.....	5	..
FW&D	4	.....	..	..
G&F	..	1 Auto	2	..
GN	63	20 Cabooses	4	77
	..	1 M/W	..	..
GB&W	..	.....	1	..
GM&O	4	.....	1	23
KCS	..	3 Autos	..	..
LS&I	6	.....	1	2
L&N	54	44 Cabooses	..	110
	..	3 M/W	..	..
	..	3 Wreckers	..	..
M&StL	..	.....	8	15
MKT	52	20 Cabooses	..	..
MP	12	3 Autos	4	..
Monon	10	.....	2	..
NYC	..	12 M/W	2	44
N&W	..	13 Cabooses	13	6
	..	1 Auto	..	..
NP	40	4 Cabooses	3	3
PGE	5	48 Cabooses Autos, M/W	2	..
RDG	..	1 Caboose	..	..
StL-SF	..	.....	2	..
SAL	10	5 Cabooses (rack & antenna only)	4	14
	..	1 M/W	..	..
	..	4 Autos	..	..
SOO	24	.....	..	72
SOU	1	4 Cabooses	3	..
	..	6 Autos	..	..
SP (Pacific Lines only)	196	37 Cabooses	17	4
SP&S	2	2 Coaches	..	..
WM	27	70 Cabooses	..	30
	1,131	505	129	585

INTERLOCKINGS INSTALLED IN U.S.A. AND CANADA

Interlocking construction during 1959 fell considerably below 1958. Some interlocking construction and rebuilding is hidden in CTC projects. Conventional practice is to absorb local interlockings into CTC projects. For example, the New York Central's Syracuse-Buffalo installation, now under construction, will absorb six major interlockings with considerable savings in wages. The City of Philadelphia installed a train identification system in its subway, whereby the interlockings are controlled automatically by the trains.

Railroad & Location	Automatic Rebuilt New Consolidated	No. of Power Switches Installed	No. of Home Signals Installed	No. of Distant Signals Installed	Mfr.
AT&SF					
Williamsfield, Ill.	R	5	6	..	US&S
Emporia, Kan.	N	2	1	..	US&S
Ellinor, Kan.	C	..	..	..	US&S
Strong City, Kan.	C	..	..	..	US&S
Neva, Kan.	C	..	..	..	US&S
Florence, Kan.	C	..	..	..	US&S
ACL					
Felicia, Fla.	NA	..	4	..	US&S
Zephyrhills, Fla.	NA	..	4	..	US&S
B&O—Arthur Kill Bridge, Staten Island, N.Y.	N	..	3	..	GRS
Alida, Ind.	NA	..	4	2	GRS
Bates, Ohio	R	17	20	..	GRS
B&M					
Beverly, Mass.	R	..	1	..	GRS
Emery, N.H.	R	..	2	..	GRS
CNR—Oak Point Sub. MP 4.1, Man.	R	..	4	2	US&S
Paris, Ont.	R	8	8	3	GRS
St. Lambert, Que.	N	6	12	..	GRS
St. Louis, Que.	N	1	2	2	GRS
CPR					
Carmen, Man.	R	..	4	..	GRS
C&O					
Hoover, Ind.	RA	1	5	2	US&S
Huntington, W.Va.	NA	..	6	1	US&S
Doswell, Va.	R	1	3	..	US&S
Ann Pere, Mich.	RA	1	5	4	GRS
C&NW					
Marshalltown, Iowa	NA	..	6	2	GRS
Beverly, Iowa	N	2	3	..	GRS
Oshkosh, Wis.	RA	..	2	..	GRS
Fond du Lac, Wis.	R	1	..	..	GRS
CMStP&P					
Chicago, Ill.	N	13	2	2	GRS
Walz, Ill.	RA	..	..	2	US&S
Cheneyville, Ill.	R	..	..	..	US&S
Kinnickinnic Draw, Milwaukee, Wis.	R	6	..	..	US&S
Burnham Draw, Milwaukee	R	3	..	..	US&S
CTA					
Chicago, Ill.	R	..	3	..	US&S
Chicago, Ill.	R	..	6	..	US&S
DL&W					
West End, Secaucus, N.J.	N	..	2	..	US&S
East Kingsland, N.J.	N	4	7	..	US&S
ERIE					
Binghamton, N.Y.	N	6	4	1	GRS
West Binghamton, N.Y.	N	4	6	2	GRS
Gibson, N.Y.	N	4	6	2	US&S
Buffalo, N.Y.	R	..	6	..	US&S
Falconer, N.Y.	R	10	..	..	US&S
IC					
Ashley, Ill.	RA	..	6	..	GRS
Rives, Tenn.	RA	..	6	..	GRS
KCS					
Shrewsbury (New Orleans), La.	NA	..	6	..	GRS
KO&G					
Muskogee, Okla.	N	2	..	..	....
L&HR					
Andover, N.J.	N	1	..	..	US&S
LIRR					
Hicksville, N.Y.	N	9	13	..	US&S
Freeport, N.Y. (temporary)	N	7	7	1	US&S
L&N					
Boyles (Birmingham), Ala.					
Freight Yard	R	5	7	3	US&S
Black Creek	R	6	6	4	US&S
Bowl	N	2	4	1	US&S
AX	R	3	5	3	US&S
Tilford (Atlanta), Ga.					
ACL Junction	N	1	3	2	US&S
S.E. Yard	N	1	3	..	US&S
Willoughby (Knoxville), Tenn.	R	..	4	6	US&S
Ashlay, Ill.	RA	..	6	4	....
Louisville, Ky.	RA	..	10	5	....
MTA					
Boston, Mass., Beacon St. Jct.	NA	2	3	2	US&S
Brookline, Mass., Reservoir Yard	NA	2	10	2	US&S
Newton, Mass., Riverside Term. Yard	NA	..	3	..	US&S
M&StL					
Hedrick, Iowa	NA	..	4	2	US&S
MP					
Nevada, Mo.	NA	..	2	1	GRS
Conroe, Texas	NA	..	..	..	GRS
NYC					
Mortimer, N.Y.	RA	..	4	..	GRS
Cleveland, Ohio, Clark Avenue	R	..	..	..	GRS
Big 4 Wye Jct.	N	1	3	..	GRS
North Liberty, Ind.	RA	..	4	..	GRS
Oria, Ind.	RA	..	6	..	GRS
Toledo, Ohio, Tower K	R	..	8	..	GRS
Broadway	R	8	9	..	GRS
Centerburg, Ohio	RA	..	4	..	GRS
NYCTA					
New York, N.Y.					
96th St.-7th Ave. B'way IRT	R	12	14	19	US&S
168th St. BMT	R	11	..	..	GRS
De Kalb Ave. BMT	R	8	15	16	GRS
Liberty Jct. BMT (Aqueduct)	N	2	2	..	GRS
NYC&StL					
North Findlay, Ohio	RA	2	4	..	US&S
N&W					
Burkeville, Va.	C	4	8	..	US&S
Pamplin, Va.	C	4	10	..	US&S
NP					
Seattle, Wash.	N	9	10	..	GRS
PRR					
Hagerstown, Md.	R	13	6	..	US&S
Shenks Ferry, Pa.	N	2	4	..	US&S
Baltimore, Md.	N	2	..	..	US&S
Baden, Pa.	N	16	17	..	US&S
Pine, Pa.	R	1	3	..	US&S
Hoover, Ind.	RA	..	..	..	US&S
Liverpool, Ind.	RA	..	6	..	US&S
CITY OF PHILADELPHIA					
Philadelphia, Pa.					
Erie Station	NA	7	6	20	US&S
Fairmount-Girard	R	5	5	14	US&S
Walnut-Locust	R	..	..	..	US&S
READING					
Haucks, Pa.	R	9	..	..	GRS
RF&P					
Richmond, Va.	N	5	5	..	US&S
StL-SF					
Kimbrough, Ala.	NA	..	4	4	US&S
Rosedale, Kan.	N	1	1	..	US&S
SOUTHERN—Louisville, Ky.					
Fourth Ave.	NA	..	8	4	GRS
Floyd St.	R	2	8	2	GRS
SP (Pacific Lines only)					
Visitacion, Calif.	C	3	6	..	US&S
UNION					
Duquesne, Pa.	C	..	..	..	US&S
WABASH					
Lodge, Ill.	R	1	5	..	US&S
WP					
Sacramento, Calif.	RA	..	..	..	....
Totals		264	440	142	

(Continued from page 89)

SIGNALING INSTALLATIONS IN U.S.A. AND CANADA

Number of electric locks installed is information not previously available. A more detailed breakdown is furnished for the first time about the use of spring switches, with and without facing point locks, in CTC territory. This accounts partially for the drop in the figures for spring switch installations at the bottom of the table. Another first is the listing of safety devices installed. Signal installations during 1959 held very close to the 1958 installation rate.

	1959	1958	1957	1956
Automatic block signaling				
Signals	363	493	423	864
Electric locks	21	..	..	..
Automatic Train stop				
Rolling stock	174	222	..	..
Wayside units	155	..	..	..
Rolling stock with cab signals	2	..	..	..
Centralized traffic control				
Power switches	536	458	586	819
Spring switches with facing point lock	12	..	..	..
Spring switches without facing point lock	82	..	..	..
Electric locks	405	..	..	..
Controlled signals	1,485	1,116	1,454	1,948
Automatic signals	986	671	1,030	1,453
Classification yards				
Car retarders	48	44	61	69
Power switches	164	248	383	254
Highway crossing protection				
Crossings with flashing-light signals only	1,012	961	1,175	984
Crossings with flashing-light signals and gates	387	419	455	336
Interlockings				
Power switches	264	432	585	536
Home signals	440	826	1,003	1,036
Distant signals	142	..	..	..
Safety devices				
Dragging equipment detectors	23	..	..	..
Hot box detectors	121	..	..	..
Wheel detectors	10	..	..	..
Feet of slide detector fence	39,125	..	..	..
Spring switches				
Spring buffer mechanisms	47	80	127	147
Spring switches with facing point locks	17	52	59	41
Signals at spring switches	61	129	208	268
Grand totals	6,803	6,151	7,549	8,755
* Units not included in other years	899*	222*	..	..

YARD RADIO INSTALLED IN U.S.A. AND CANADA IN 1959

Even though yard radio installations declined slightly from 1958, the number of car inspection radio systems installed increased from eight to twelve. A recent development in this field is that of providing inspectors with Dick Tracy transmitters and small pocket receivers, rather than with two-way walkie-talkies. Two railroads made such installations in 1959 and are planning more this year. The Pennsylvania installed two microwave stations to provide a link between yard radio systems at Norristown and Reading, Pa., 41 miles.

Railroad	No. of Installations	Locomotives	Fixed Stations	Walkie-Talkies
AT&SF	9	17	9	80
B&O	2	10	3	12
B&M	1	1 Auto	..	1
CN	2	27	2	..
CP	6	55	12	8
		13 Autos	..	..
CNJ	1	15	1	..
		1 Auto	..	..
C&O	1	..	..	2
CB&Q	10	13	7	8
		4 Autos	..	..
CMStP&P	1	..	1	6
D&H	6	4 Autos	1	4 (Wreck Cranes)
D&RGW	2	6	..	..
		1 Auto	..	..
DT&I	1	..	1	..
Erie	5	5 Autos	..	..
FEC	1	8	1	3
GN	2	2	1	..
		13 Autos	..	..
IC	3	18	3	..
		10 Autos	..	..
IT	1	4	..	4
KCS	3	6	1	..
LS&I	1	4	1	..
L&N	4	7	4	7
		4 Autos	..	..
MP	3	12	7	18
NYC	11	30	11	62
		13 Autos	..	..
		3 M/w	..	..
N&W	4	..	3	9
NP	4	5	2	..
		1 Auto	..	..
		1 Truck	..	..
PRR	9	34	10	56
		7 Autos	..	..
RDG	1	4 Autos	1	..
StL-SF	7	15	6	..
SOU	1	..	1	..
SP (Pacific Lines only)	11	15	10	28
		21 Autos	..	..
UNION	4	32	4	3
UP	2	11	1	6
		1 Auto	..	..
WAB	1	1 Auto	..	..
WP	1	..	..	3
Totals	121	454	104	320

YARD COMMUNICATIONS INSTALLED IN U.S.A. AND CANADA IN 1959

The drop in yard loudspeaker installations for 1959 is partially accounted for by the fact that only five classifications yards were constructed last year, compared with seven in 1958. Twelve freighthouses were equipped with communications systems in 1959, compared with three houses so equipped in 1958. The largest such installation was made by the Union Pacific at Albina, Ore. This freighthouse has 153 two-way speakers and 26 paging speakers.

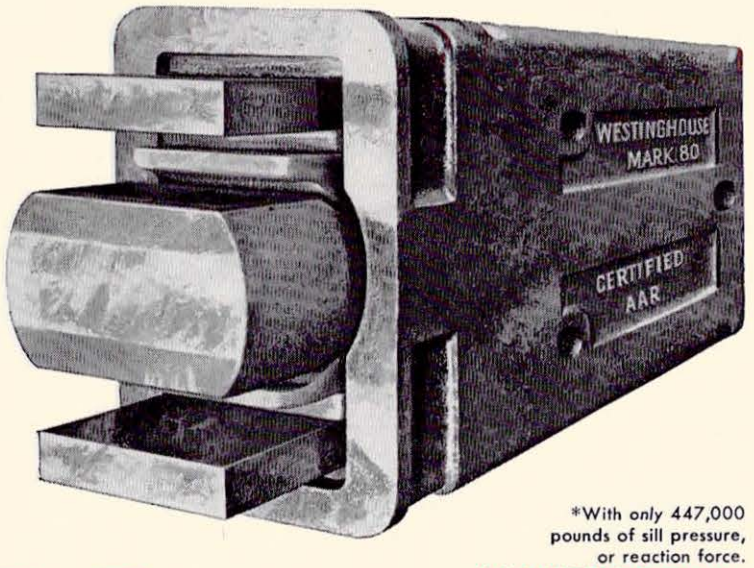
	Loudspeaker Systems			Intercommunications		
Railroad	Yards	Talk-back Speakers	Paging Speakers	Installations	Telephones	Walkie-Talkies
AT&SF	1	20	8	2	..	57
ACL	1	8	..	3	..	39
B&O	3	13	6	1	8	22
CN	2	90	80	8	54	77
CP	2	22	5	1	..	19
CofG	1	6	..	..	..	..
CNJ	1	2	2	1	..	10
C&O	1	34	6	1	..	3
C&EI	..	..	..	1	..	2
CB&Q	1	..	2	1	..	6
CMStP&P	2	12	2	3	..	12
CRI&P	1	7	..	1	..	5
DT&I	..	..	..	1	..	1
DM&IR	2	4	..	..	..	..
GN	1	7	11	2	..	69
IC	1	16	8	..	..	..
JTCo	1	25	..	1	..	5
L&N	3	41	71	1	..	3
MTA	..	..	..	1	2	..
MKT	1	14	8	..	..	..
MP	1	220	60	..	..	..
NYC	..	..	..	3	7	48
N&W	1	..	10	1	..	12
PRR	1	8	8	..	..	..
StL-SF	2	20	14	..	..	..
SAL	..	..	..	1	..	11
SOU	4	12	19	4	2	18
SP (Pacific Lines only)	4	61	12	..	..	..
T&P	..	..	..	..	..	8
UP	1	84	14	3	..	192
Totals	39	726	346	42	73	619

RETARDER AND CLASSIFICATION YARD PROJECTS

Retarder yard projects fell off from 1958, but should pick up in 1960. The Missouri Pacific has announced plans to construct a new retarder classification yard at North Little Rock, Ark. The New York Central is constructing a similar yard at Indianapolis, Ind., and has plans for a yard at Detroit, Mich., and a third on the Eastern district.

(Continued on page 92)

Geared to the fight to cut damage claims



BIG TOUGH MARK 80

FRICTION DRAFT GEAR FOR 36-INCH POCKETS

*With only 447,000 pounds of sill pressure, or reaction force.
A. A. R. CERTIFICATE NO. 37

Put MARK 80's 77,320 foot-pounds* of shock-absorbing capacity to work *really cutting* your damage claims.

Right at *the point of impact*... right behind the coupler, MARK 80 will do a bigger, better job of *stopping* overspeed shocks where they *start*. Center sills and freight cars are designed to operate this way; MARK 80 has the "beefed-up", built-in capacity to cope with the heavier shocks of today's traffic.

Specify the MARK 80 Friction Draft Gear. You'll see damage claims go *down*... car repair costs *reduced*, too!

For *standard* 24⅝ inch pockets, specify the Westinghouse Mark 40 (high capacity) Draft Gear... or Westinghouse NY-11-F Draft Gear.

CARDWELL WESTINGHOUSE COMPANY

332 South Michigan Avenue, Chicago 4, Illinois • Canadian Cardwell Co., Ltd., Montreal 18, Quebec

(Continued from page 90)

These yards are expected to be started in 1960. Also, the Erie and the Lackawanna are considering construction of a retarder yard at Buffalo, N.Y. During 1959, the RF&P rebuilt the southward hump at Potomac yard providing semi-automatic retardation and automatic switching. Ten classification tracks were added.

Railroad & Location	Retarders	No. of Power Switches Installed Non-interlocked	Class Tracks	Engines with Cab Signals	Mfr.
B&M					
Mechanicville, N.Y.	2	..	..	..	GRS
C&O					
Presque Isle, Ohio	3	9	10	..	US&S
LS&I					
West Yard	..	3	..	..	GRS
MP—Kansas City, Mo.					
East Yard	13	39	40	3	GRS
West Yard	11	31	32	2	GRS
PRR					
Conway, Pa.	1	*2	6	..	US&S
RF&P					
Alexandria, Va.	7	39	39	..	US&S
StL-SF—Tusla, Okla.					
Cherokee Yard	11	40	40	2	GRS
SAL					
Hamlet, N.C.	..	*1	..	..	US&S
Totals	48	164	167	7	

* Interlocked

GRADE CROSSING PROTECTION

While six fewer railroads installed crossing protection equipment in 1959, the 75 roads equipped 1,397 crossings or 17 more than in 1958. For the fifth straight year, a gain was registered for the number of crossings equipped through joint use of railroad and government funds (federal, state and local municipalities).

Railroad	Number of Crossings Equipped: Flashing Light Signals	Gates and Flashers	Sources of Funds: Railroad	Non-Railroad	Joint
AT&SF	42	16	14	15	29
A&WP	1	..	1	..	..
ACL	40	10	9	6	35
B&O	11	7	5	2	11
BAR	2	..	..	..	2
B&M	5	10	10	1	4
CNR	119	19	4	7	127
CPR	106	17	1	4	118
CofG	3	1	1	..	3
C&O	21	7	2	1	25
C&EI	4	2	1	..	5
C&NW	52	28	24	..	56
CB&Q	11	11	4	..	18
CGW	8	6	7	3	4
CMStP&P	37	13	36	..	14
CNS&M	..	2	..	2	..
CRI&P	45	8	25	3	25
CSS&SB	..	3	3	..	..
Clinchfield	..	1	..	1	..
D&H	1	8	4	1	4
D&RGW	6	1	2	4	1
DL&W	4	3	1	2	4
DT&I	5	..	..	..	5
DM&IR	..	1	..	..	1
DSS&A	2	..	..	..	2
EJ&E	1	..	1	..	..
ERIE	9	11	8	3	9
FEC	5	20	7	9	9
FW&D	1	..	..	..	1
G&F	3	2	..	..	5
GTW	6	2	..	..	8
GN	10	10	10	2	8
GM&O	6	1	..	1	6
IC	11	16	7	5	15
IT	1	..	..	..	1
JCL	2	3	2	2	1
KCS	2	..	..	..	2
KO&G	6	..	..	..	6
L&NE	2	..	..	..	2
LIRR	4	11	6	..	9
L&N	10	7	4	6	7
MeC	5	..	1	1	3
M&StL	7	1	..	1	7
MKT	6	..	5	..	1
MP	21	5	10	1	15
NYC	59	29	26	7	55
P&LE	..	1	..	1	..
NYC&StL	10	1	5	..	6
NYNH&H	4	2	2	4	..
N&W	4	6	1	..	9
NP	15	2	5	..	12
ONL	2	..	..	..	2
PGE	..	2	2	..	..
PRR	27	16	25	4	14
P-RSL	1	..	1	..	..
QC	1	..	..	..	1
READING	4	15	14	2	3
RF&P	..	4	..	..	4
StL-SF	15	3	4	1	13
StLSW	10	..	7	..	3
SAL	17	10	7	1	19
SOO	17	1	..	1	17
SOUTHERN	22	11	5	6	22
SP (Pacific Lines only)	83	13	18	20	58
SP&S	2	..	..	..	2
TRRSL	2	..	..	..	2
T&P	10	1	2	1	8
TP&W	9	..	1	6	2
TH&B	7	..	..	..	7
UP	24	5	6	3	20
VGN	2	..	..	..	2
WABASH	8	2	5	..	5
WM	5	..	3	..	2
WP	9	..	1	3	5
Totals	1,012	387	355	143	901

COMMUNICATIONS INSTALLATIONS IN U.S.A. AND CANADA

Printing telegraph equipment and automatic telephone exchanges are included in our statistical summary for the first time. The number of telephones under intercommunications systems declined because many of the new phones are now listed under stations available off automatic exchanges. Information on speech plus telegraph carrier terminals and repeaters is also included for the first time this year.

	1959	1958	1957	1956
Miles of new or rebuilt pole line	4,574	3,450	6,139	7,304
Miles of new aluminum line wire	2,568	1,319	6,089	4,086
Miles of new copper line wire	5,725	4,475	4,546	7,752
Carrier equipment installed				
Terminals				
Voice only	1,169	1,600	899	714
Speech plus telegraph	103	..	..	..
Telegraph only	968	1,017	996	948
Repeater equipment				
Voice only	121	209	168	152
Speech plus telegraph	4	..	..	..
Telegraph only	7	26	8	34
Printing telegraph equipment				
SO, RO and SR machines	421	..	..	..
Perforators	104	..	..	..
Automatic telephone exchanges	38	..	..	..
Stations available	3,050	..	..	..
Road train radio				
Locomotives	1,131	826	875	966
Cabooses and other cars	505	570	554	491
Fixed wayside stations	129	125	136	175
Walkie-talkie sets	585	375	568	406
Yard radio communications				
Locomotives (autos, trucks)	454	436	448	416
Fixed stations	104	154	120	101
Walkie-talkie sets	320	371	288	168
Yard loudspeaker systems				
Two-way speakers	726	1,250	1,672	935
Paging speakers	346	449	511	459
Intercommunications systems				
Telephones	73	680	407	255
Loudspeakers	619	841	795	561
Grand total	7,927	8,929	8,445	6,781

MOTIVE POWER STATISTICS

FREIGHT SERVICE	9 Months Ended with September: 1958	1959
Road locomotive-miles (000) (M-211):		
Total, steam	3,975	1,113
Total, diesel-electric	298,925	317,148
Total, electric	4,743	4,727
Total locomotive-miles	309,384	325,999
Gross ton-miles (excluding locomotive and tender)	936,539	987,357
Train-Miles:		
Steam locomotive	3,354	912
Diesel locomotive	285,859	303,427
Electric locomotive	4,305	4,254
Other locomotive	1,699	2,924
Motor-car	148	112
Total	295,365	311,630
PASSENGER SERVICE		
Road motive-power miles (000) (M-213):		
Steam	1,179	82

(Continued on page 94)

"Automation is a must"

says Mr. David A. Hill,
Consultant,
Railroad Securities
Chicago, Illinois

"Railroads cannot afford NOT to mechanize. The annual saving from funds invested in modernization is substantial. In fact, bank loans for such purposes as C.T.C. and electronic classification yards are self-liquidating."

This prominent securities consultant, like many others in his field, firmly believes that increased automation is the best way railroads can reduce operating expenses . . . and improve profits.

The meaning is clear. And, more and more railroads are installing the needed cost-cutting control systems. UNION Centralized Traffic Control and UNION VELAC® Classification Yard Systems have proved their outstanding ability to promote efficient, reliable service and to reduce operating costs. Let us tell you about them. An inquiry will bring interesting factual information together with a list of installations and proof of savings.

"Pioneers in Push-Button Science"

UNION SWITCH & SIGNAL
DIVISION OF WESTINGHOUSE AIR BRAKE COMPANY
SWISSVALE, PENNSYLVANIA
NEW YORK . . . . PITTSBURGH . . . . CHICAGO . . . . SAN FRANCISCO

(Continued from page 92)

	9 Months Ended with September	
PASSENGER SERVICE	1958	1959
Diesel-electric	159,231	145,858
Electric	8,196	7,357
Total	168,606	153,498
YARD SERVICE		
Freight yard-switching locomotive hours (000) (M-215):		
Steam, coal-burning	304	111
Diesel-electric*	29,349	30,608
Total	29,687	30,745

* Excludes B and training A units.

LOCOMOTIVE OWNERSHIP

	12 Mo. 1958	Oct. 1, 1958	Oct. 1, 1959
DIESEL-ELECTRIC UNITS			
Passenger	2,034	2,032	2,016
Freight	8,405	8,370	8,354
Multi-purpose	9,603	9,550	10,085
Switch	7,673	7,642	7,677
Total	27,715	27,594	28,132
GAS-TURBINE ELECTRIC UNITS			
Freight	29	28	33
ELECTRIC UNITS			
Passenger	207	207	201
Freight	306	306	299
Multi-purpose	15	15	10
Switch	31	31	31
Total	559	559	541
STEAM LOCOMOTIVES			
Passenger	161	178	119
Freight	790	986	548
Passenger or freight	105	109	87
Switch	228	259	121
Total	1,284	1,532	875

NEW SECURITIES ISSUES, 1937-1959

(Amounts in thousands of dollars)

Year	Bonds	Stock	Railroad total	Total all Industries	Railroads as per cent of total
1937	344,257	.....	344,257	2,309,524	14.9
1938	54,873	.....	54,873	2,154,664	2.5
1939	185,474	233	185,707	2,164,007	8.6
1940	323,912	.....	323,912	2'677,173	12.1
1941	366,313	.....	366,313	2,666,887	13.7
1942	47,726	.....	47,726	1,062,288	4.5
1943	161,179	.....	161,179	1,169,682	13.8
1944	609,010	350	609,360	3,201,891	19.0
1945	1,453,517	504	1,454,021	6,010,985	24.2
1946	711,119	.....	711,119	6,899,646	10.3
1947	285,680	.....	285,680	6,576,824	4.3
1948	623,348	.....	623,348	7,077,820	8.8
1949	459,982	.....	459,982	6,051,550	7.6
1950	554,100	.....	554,100	6,361,043	8.7
1951	330,021	5,066	335,087	7,741,099	4.3
1952	524,205	1,000	524,205	9,534,162	5.5
1953	302,397	.....	302,397	8,897,996	3.4
1954	478,895	427	479,322	9,516,168	5'0
1955	541,854	5,923	547,777	10,240,155	5.3
1956	380,811	1,201	382,012	10,938,718	3.5
1957	343,647	.....	343,647	12,883,533	2.7
1958	238,352	.....	238,352	11,558,343	2.1
1959*	163,997	.....	163,997	8,683,274	1.9

*11 months total.
Compiled by Securities and Exchange Commission.

EQUIPMENT ORDERS Reported in 1959

*Freight-Train Cars Ordered for Domestic Use—by Type**

	Box	Flat	Gondola	Hopper	Tank	Refrig-erator	Caboose	Other	Total
1959	15,660	4,203	4,781	20,091	1,998	4,588	216	166	51,703
1958	5,344	1,547	1,306	6,534	1,587	875	105	116	17,414

*Freight-Train Cars Delivered for Domestic Use—by Type**

	Box	Flat	Gondola	Hopper	Tank	Refrig-erator	Caboose	Other	Total
1959	11,307	3,033	1,543	16,030	2,033	2,138	99	190	36,373
1958	8,772	1,165	11,204	15,354	3,718	2,035	139	373	42,760

*Passenger-Train Cars Ordered for Domestic Use—by Type**

	Coach	Coach Comb.	Exp.-Ref.	Sleeping	Dining	Club	Self-Propelled	Baggage Express	MU	Postal & Combination	Other	Total
1959	36	00	00	12	00	00	00	135	00	00	00	183
1958	20	00	00	00	10	00	5	00	00	6	22	63

*Passenger-Train Cars Delivered for Domestic Use—by Type**

	Coach	Coach Comb.	Exp.-Ref.	Sleeping	Dining	Club	Self-Propelled	Baggage Express	MU	Postal & Combination	Other	Total
1959	33	00	00	12	10	00	00	15	00	00	00	70
1958	27	7	00	2	1	1	00	64	00	00	22	124

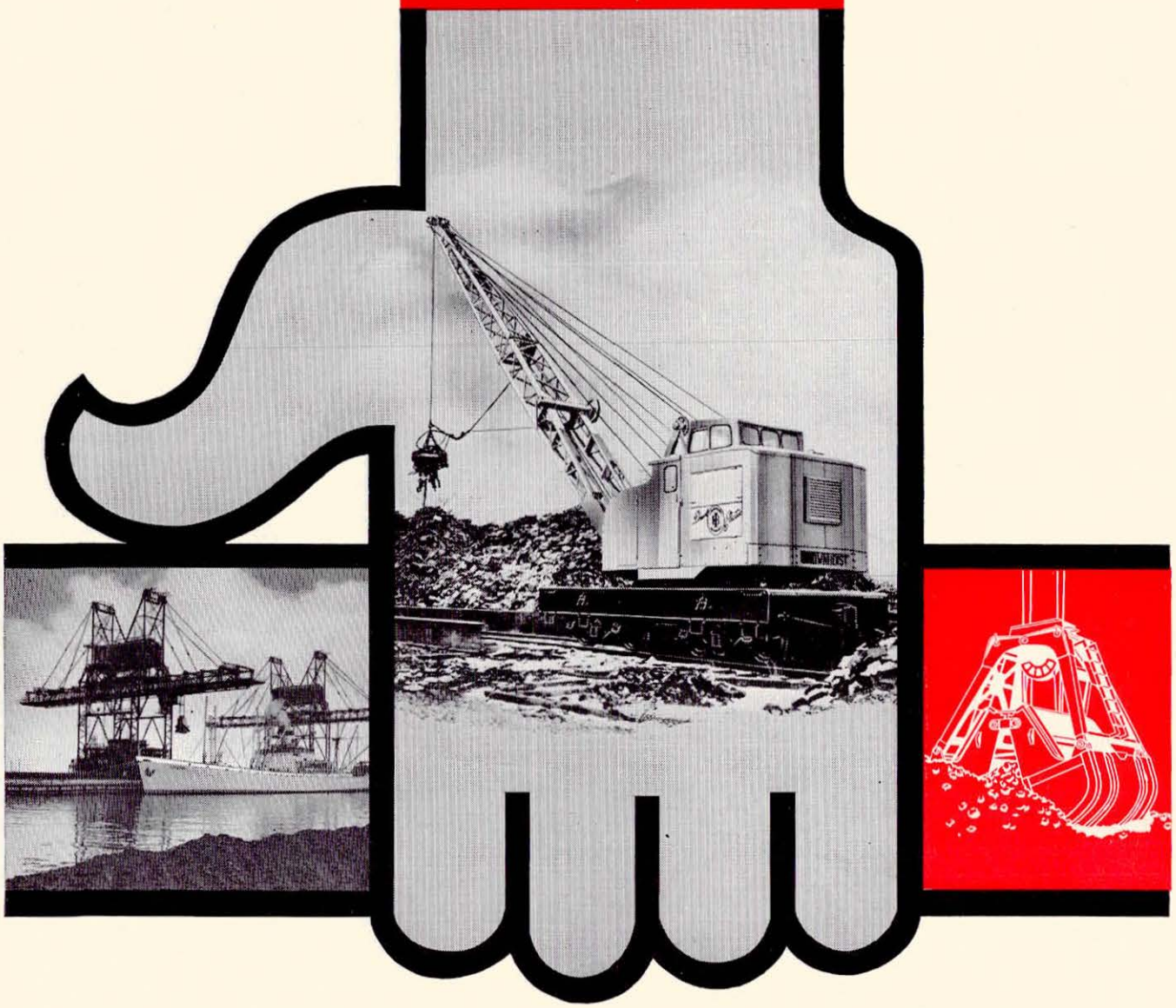
*All 1959 figures subject to revision.

1959 FREIGHT-TRAIN CAR ORDERS

Purchaser	No.	Type	Capacity	Length Ft.	Length In.	Weight	Ordered	Date Delivery	Builder
Aliquippa & Southern	20	Gondola	200,000	34	0	76,500	Apr. '59	Feb. '60	Company Shops
	10	Gondola	200,000	34	0	76,500	Jul. '59	May '60	Company Shops
American Refrigerator Transit	150	Refrigerator	140,000	50	0	.....	Nov.'59	May '60	Pacific Car
	50	Refrigerator	140,000	50	0	.....	Nov. '59	May '60	Pacific Car
	100	Refrigerator	140,000	50	0	.....	Dec. '59	1960	Pacific Car

(Continued on page 96)

for efficiently handling
heavy bulk material at
minimum per ton cost



Industrial Brownhoist
cranes, bridges, towers and buckets

write for catalog 562

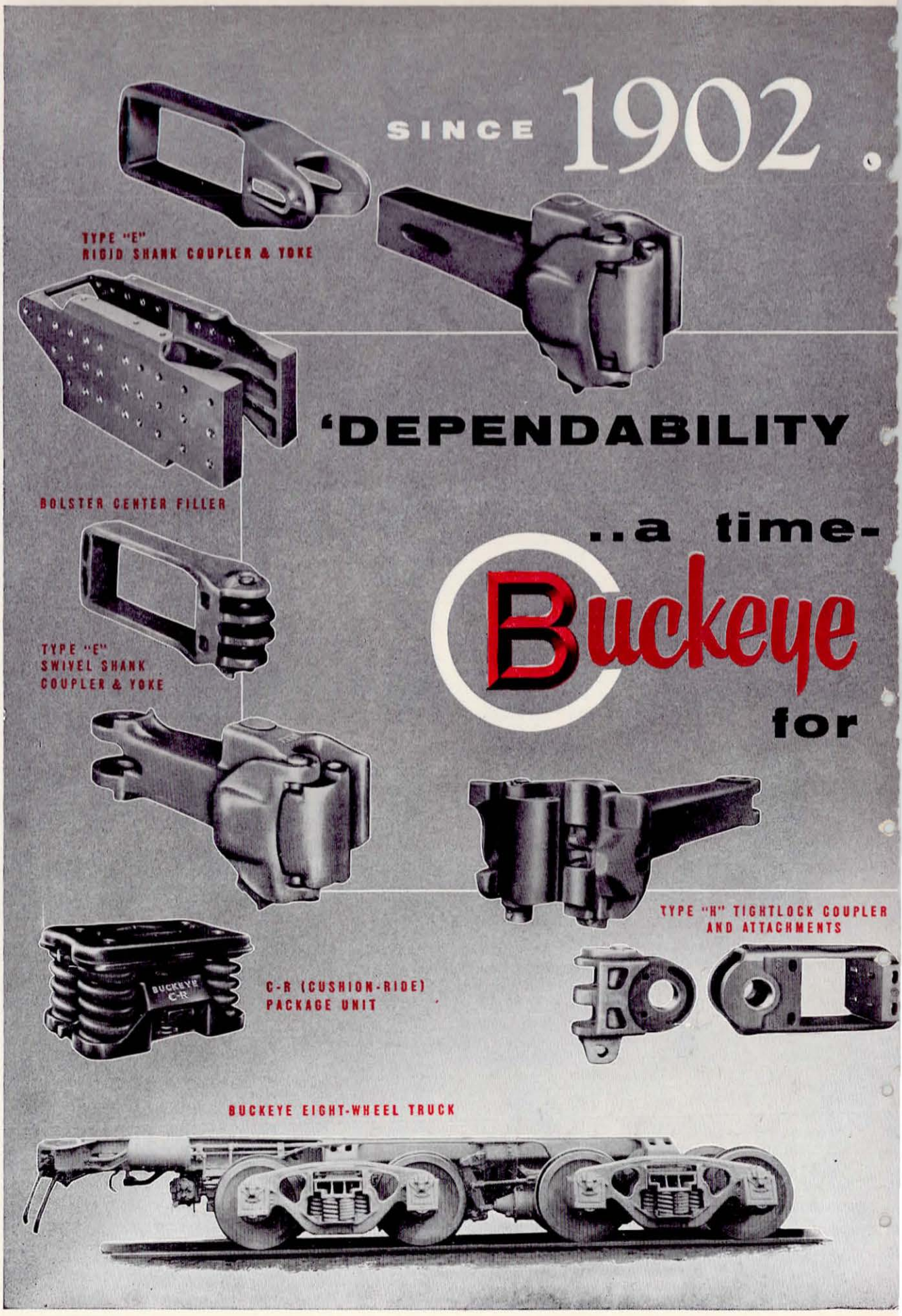
INDUSTRIAL BROWNHOIST CORPORATION • BAY CITY, MICHIGAN

FREIGHT-TRAIN CAR ORDERS *(Continued from page 94)*

Purchaser	No.	Type	Capacity	Length Ft.	Length In.	Weight	Ordered	Date Delivery	Builder
Atchison, Topeka & Santa Fe	50	Cov. Hopper	140,000	41	1	62,400	Jan. '59	Mar. '59	Pullman-Standard
	50	Cov. Hopper	140,000	40	9	.....	Jan. '59	June '59	GATC
	200	Flat	100,000	85	0	.....	Oct. '59	.....	GATC
	96	Cov. Hopper	.....	..	..	140,000	Mar. '59	Apr. '59	Greenville Steel Car
	1,000	Box	140,000	50	6	140,000	Mar. '59	3rd Quart. '59	Company Shops
	54	Hopper	.....	41	5/8	140,000	Apr. '59	May '59	ACF
	100	Hopper	.....	41	5/8	140,000	Apr. '59	May '59	Pullman-Standard
	100	Refrigerator	100,000	50	0	140,000	June '59	Apr. '60	General American
	100	Refrigerator	100,000	50	0	140,000	Mar. '59	June '60	Company Shops
	155	Cov. Hopper	140,000	41	3/4	140,000	Sept. '59	Oct. '59	Pullman-Standard
	100	Cov. Hopper	140,000	41	3/4	140,000	Nov. '59	Nov. '59	Pullman-Standard
Atlantic Coast Line	700	Box	100,000	50	6	55,000	Jul. '59	2nd Quart. '60	ACF
	300	Hopper	140,000	29	7	56,000	Jul. '59	1st Quart. '60	ACF
Baltimore & Ohio	300	Gondola	140,000	52	6	60,800	Feb. '59	Aug. '59	Company Shops
	40	Gondola	140,000	52	6	61,800	Feb. '59	June '59	Company Shops
	100	Gondola	140,000	52	6	81,700	Feb. '59	June '59	Company Shops
	50	Gondola	140,000	52	6	74,500	Feb. '59	June '59	Company Shops
	10	Gondola	140,000	52	6	65,300	Feb. '59	June '59	Company Shops
	1	Scale Test	40,000	13	0	40,000	Apr. '59	1960	Atlas Car
	500	Gondola	140,000	52	6	60,100	June '59	March '60	Company Shops
	100	Gondola	140,000	52	6	60,100	June '59	March '60	Company Shops
	100	Box	100,000	50	6	59,200	June '59	Nov. '59	Company Shops
	150	Box	100,000	50	6	69,800	June '59	Dec. '59	Company Shops
	50	Box	100,000	50	6	69,800	June '59	May '60	Company Shops
	200	Box	100,000	50	6	69,800	June '59	May '60	Company Shops
	40	Flat	100,000	42	3	38,600	July. 59	1960	Company Shops
	60	Flat	100,000	48	3	60,000	Jul. '59	1960	Company Shops
	12	Caboose	.....	23	4	54,100	Oct. '59	1960	Company Shops
	500	Gondola	140,000	52	6	60,100	Dec. '59	June '60	Company Shops
	2,000	Hopper	100,000	33	0	41,400	Dec. '59	Feb. '61	Company Shops
	500	Box	100,000	50	6	69,800	Dec. '59	Sept. '60	Company Shops
Boston & Maine	38	Caboose	60,000	22	11 3/8	47,800	Jan. '59	1959	International Car
Canadian General Transit	2	Tank ④	.....	..	..	.....	Jan. '59	Mar. '59	Company Shops
	2	Tank	.....	..	..	.....	Jan. '59	Apr. '59	Canadian Car & Fdy
	1	Tank	.....	..	..	.....	May '59	Sept. '59	Company Shops
	3	Tank	.....	..	..	.....	May '59	Dec. '59	Company Shops
	1	Tank	.....	..	..	.....	Jan. '59	June '59	Canadian Car & Fdy
	3	Tank	.....	..	..	.....	Sept. '59	Apr. '60	Canadian Car & Fdy
	25	Tank	.....	..	..	.....	Dec. '59	1960	Canad an Car & Fdy
	3	Tank	.....	..	..	.....	Dec. '59	Apr. '60	Canadian Car & Fdy
	10	Tank ④	.....	..	..	.....	Dec. '59	1960	Canadian Car & Fdy
	1	Tank	.....	..	..	.....	Dec. '59	1960	Canadian Car & Fdy
	4	Tank	.....	..	..	.....	Dec. '59	1960	Canadian Car & Fdy
	1	Cov. Hopper ④	.....	..	..	.....	Dec. '59	1960	Canadian Car & Fdy
	2	Box	.....	..	..	.....	Dec. '59	1960	Canadian Car & Fdy
Canadian National	100	Flat	100,000	52	6	50,600	Jul. '59	Jan. '60	Marine Industries
	200	Box	100,000	39	7	52,900	May '59	Dec. '59	Dominion Steel
	400	Flat	.....	46	0	36,800	Mar. '59	2nd Half '59	National Steel Car
Canadian Pacific	300	Flat	66,000	46	0	42,300	Jan. '59	May '59	National Steel Car
	200	Box	100,000	40	6	44,500	Feb. '59	June '59	National Steel Car
	300	Box	100,000	40	6	44,400	Feb. '59	July '59	Eastern Car
	500	Box	100,000	50	6	63,600	Feb. '59	3rd Quart. '59	Canadian Car
	152	Cov. Hopper	140,000	36	0	49,900	Feb. '59	3rd Quart. '59	Marine Industries
	14	Cov. Hopper	.....	31	10 1/2	58,100	Apr. '59	Sept. '59	National Steel Car
	500	Box	100,000	39	7	53,800	May '59	Nov. '59	National Steel Car
Central of Georgia	10	Flat	186,000	53	6	74,000	Dec. '59	Feb. '60	Ortner Co.
Chesapeake & Ohio	250	Box	100,000	50	6	63,500	Mar. '59	Dec. '59	ACF
	250	Box	100,000	50	6	63,500	Apr. '59	Aug. '59	Pullman-Standard
	50	Flat ①	140,000	85	0	70,000	Apr. '59	Aug. '59	ACF
	50	Flat ①	140,000	85	0	70,000	May '59	Feb. '60	ACF
	50	Flat ①	140,000	85	0	68,000	June '59	Aug. '59	Pullman-Standard
Chicago & Eastern Illinois	23	Box	100,000	50	4	68,700	Feb. '59	Apr. '59	Pullman-Standard
	100	Box	100,000	50	6	66,600	Apr. '59	Jul.'59	ACF
	11	Flat ①	140,000	53	6	56,209	Apr. '59	Jul. '59	Thrall Car
	400	Box	100,000	40	6	48,150	Apr. '59	Aug. '59	Pullman-Standard
	75	Gondola	140,000	52	6	62,510	Apr. '59	June '59	Bethlehem Steel
	25	Cov. Gondola	140,000	52	6	73,010	Apr. '59	June '59	Bethlehem Steel
	100	Box	100,000	50	6	.....	Apr. '59	Dec. '59	ACF
	60	Box	100,000	40	6	.....	Apr. '59	Dec. '59	ACF
Chicago & North Western	150	Caboose	80,000	30	0	44,200	Jul. '59	1960	Thrall Car
Chicago Great Western	10	Cov. Hopper	140,000	41	1	62,600	Feb. '59	Feb. '59	Pullman-Standard
	10	Flat	100,000	53	6	64,800	Apr. '59	Jul. '59	Thrall Car
Chicago, Milwaukee, St. Paul & Pacific	25	Cov. Gondola	140,000	52	6	65,500	May '59	Feb. '60	Thrall Car
	50	Flat	140,000	60	0	63,000	Mar. '59	May '59	Thrall Car
	100	Box	100,000	50	1	60,400	Jan. '59	Apr. '59	Pullman-Standard
Chicago, Rock Island & Pacific	15	Cov. Hopper	140,000	41	3/4	63,600	Jan. '59	Feb. '59	Pullman-Standard
	20	Caboose	60,000	28	6	49,100	Jan. '59	1960	International Car
	100	Box	100,000	40	6	47,500	Apr. '59	Aug. '59	Pullman-Standard
	100	Flat	140,000	85	0	71,900	Nov. '59	May '60	Pullman-Standard
	100	Box	100,000	50	6	52,200	Nov. '59	Mar. '60	Pullman-Standard
	100	Box	100,000	50	6	54,600	Nov. '59	Mar. '60	Pullman-Standard
	300	Box	100,000	40	6	45,400	Nov. '59	Mar. '60	Pullman-Standard
Denver & Rio Grande Western	28	Hopper	140,000	41	3/4	62,000	Jan. '59	Mar. '59	Pullman-Standard
	100	Flat	100,000	53	6	52,400	Jan. '59	June '59	Bethlehem Steel
	9	Flat	140,000	85	0	71,700	Jan. '59	Mar. '59	Pullman-Standard
	15	Flat	140,000	85	0	71,700	Apr. '59	June '59	Pullman-Standard
	115	Box	140,000	50	1	80,000	Jan. '59	Feb. '60	Pacific Car & Fdy
	11	Caboose	80,000	29	2 1/2	49,900	Mar. '59	Sept. '59	Company Shops
Detroit, Toledo & Ironton	200	Hopper	140,000	40	7 3/4	51,000	Jan. '59	1959	Greenville Steel Car
Erie	80	Box	100,000	50	6	71,000	Mar. '59	June '59	Pullman-Standard
	20	Box	100,000	50	6	66,700	Mar. '59	June '59	Pullman-Standard
	100	Box	100,000	50	6	65,700	Mar. '59	June '59	Pullman-Standard
Georgia & Florida	100	Box	100,000	50	6	53,800	June '59	Sept. '59	Pullman-Standard
	10	Cov. Hopper	140,000	29	6	48,100	June '59	Sept. '59	Iron & Steel Products
Great Northern	500	Box	100,000	40	6	55,300	May '59	Sept. '59	ACF
	10	Flat	140,000	85	0	69,000	Nov. '59	Apr. '60	ACF
	25	Flat	140,000	85	0	69,100	Nov. '59	June '60	GATC
	75	Cov. Hopper	140,000	41	0	63,600	Dec. '59	July '60	Pullman-Standard
	500	Box	100,000	40	6	49,500	Dec. '59	Aug. '60	Company Shops
	100	Hopper	140,000	42	10	54,000	Dec. '59	Apr. '60	Pullman-Standard
Green Bay & Western	50	Box ①	100,000	40	6	48,500	Mar. '59	Jul.' 59	Pullman-Standard
	2	Caboose ①	.....	30	0	44,000	Oct. '59	Jan. '60	Thrall Car
Illinois Central	350	Box	100,000	50	6	57,000	Feb. '59	Oct. '59	Company Shops
	150	Box	100,000	50	6	63,100	Feb. '59	Oct. '59	Company Shops
	350	Box	100,000	40	6	53,100	Jul.' 59	Mar. '60	Company Shops
	150	Box	100,000	40	6	59,100	Jul. '59	Mar. '60	Company Shops
	50	Cov. Hopper	140,000	41	1	61,200	Feb. '59	Mar. '59	Pullman-Standard
	25	Gondola	140,000	52	6	.....	Jul. '59	Feb. '60	Bethlehem Steel
	30	Cov. Hopper	170,000	40	9	66,900	Oct. '59	Nov. '59	GATC
	20	Cov. Hopper	170,000	40	9	66,900	Dec. '59	June '60	GATC
	150	Cov. Hopper	170,000	29	3	51,200	Dec. '59	1st Half '60	ACF
	500	Hopper	140,000	40	8	52,500	Dec. '59	June '60	Company Shops

Purchaser	No.	Type	Capacity	Length Ft.	Length In.	Weight	Ordered	Date Delivery	Builder
Kansas City Southern	100	Box	100,000	50	6	52,000	Feb. '59	Apr. '59	Pullman-Standard
	62	Cov. Hopper	140,000	41	1	.....	Feb. '59	Apr. '59	Pullman-Standard
Lake Superior & Ishpeming	200	Hopper	140,000	20	7-7 /8	40,000	Jan. '59	Apr. '59	Bethlehem Steel
Louisville & Nashville	100	Cov. Hopper	140,000	41	¾	63,000	May '59	Jul. '59	ACF
	150	Box	100,000	50	6	62,400	Jul. '59	4th Quart. '59	Pullman-Standard
	900	Gondola	140,000	52	6	61,000	Nov. '59	3rd Quart. '60	Pullman-Standard
	1,700	Hopper	140,000	42	10	52,500	Nov. '59	2nd Quart. '60	Pullman-Standard
	100	Box	100,000	40	6	45,700	Nov. '59	May '60	ACF
	100	Box	100,000	50	6	54,600	Nov. '59	May '60	ACF
	42	Cov. Hopper	140,000	41	¾	63,000	Nov. '59	Feb. '60	ACF
	108	Cov. Hopper	140,000	41	¾	63,600	Nov. '59	Dec. '59	Pullman-Standard
	50	Box	100,000	50	6	54,600	Nov. '59	May '60	ACF
Maine Central	2	Flat ①	100,000	53	6	57,000	Sept. '59	Dec. '59	Chicago Freight Car
Merchants Despatch Transportation	212	Box	100,000	40	1	52,000	Dec. '59	June '60	Pullman-Standard
	25	Box	140,000	50	1	58,750	Dec. '59	July '60	Pullman-Standard
Minneapolis & St. Louis	15	Flat	100,000	53	6	64,500	Jan. '59	Apr. '59	Company Shops
	10	Box	100,000	50	6	60,700	Sept. '59	Nov. '59	Pullman-Standard
	4	Box	100,000	40	6	45,400	Sept. '59	Nov. '59	Pullman-Standard
Minneapolis, St. Paul & Sault Ste. Marie	25	Cov. Hopper	140,000	29	3	51,100	Feb. '59	Apr. '59	ACF
	25	Cov. Hopper	140,000	41	¾	62,200	Mar. '59	Apr. '59	Pullman-Standard
	25	Box	100,000	40	6	47,200	Mar. '59	Jul. '59	Pullman-Standard
Missouri-Illinois	46	Cov. Hopper	140,000	41	0	62,200	June '59	Jul. '59	ACF
Missouri-Kansas-Texas	4	Caboose	80,000	28	7	37,300	Jan. '59	Jul. '59	Thrall Car
	5	Box	100,000	40	6	59,700	Mar. '59	Aug. '59	Thrall Car
	17	Cov. Hopper	140,000	29	3	50,700	Mar. '59	Apr. '59	ACF
	100	Cov. Hopper	140,000	29	3	50,700	Mar. '59	May '59	Pullman-Standard
	15	Box	100,000	40	6	.....	Apr. '59	Jan. '60	Thrall Car
Missouri-Pacific	50	Cov. Hopper	140,000	29	3	52,400	Mar. '59	Aug. '59	Company Shops
	50	Cov. Gondola	140,000	52	5	66,300	Mar. '59	Jul. '59	Company Shops
	50	Box	100,000	40	6	51,600	Mar. '59	Oct. '59	Company Shops
	250	Box	100,000	40	6	47,800	Mar. '59	Oct. '59	Company Shops
	150	Box	100,000	50	6	.....	Mar. '59	May '60	Company Shops
	150	Box	100,000	50	6	53,700	Mar. '59	4th Quart. '59	Company Shops
	50	Box	100,000	50	6	59,700	Mar. '59	Dec. '59	Company Shops
	50	Cov. Hopper	140,000	40	9	67,500	Sept. '59	Oct. '59	GATC
	140	Box	100,000	40	6	47,000	Nov. '59	Nov. '59	ACF
	200	Box	100,000	40	6	.....	Nov. '59	Jan. '60	Pullman-Standard
	100	Box	100,000	50	6	52,700	Nov. '59	Dec. '59	ACF
	215	Box	100,000	50	6	52,600	Nov. '59	Dec. '59	Pullman-Standard
	325	Box	100,000	50	6	53,600	Nov. '59	Dec. '59	Pullman-Standard
	100	Box	100,000	50	6	55,100	Nov. '59	Dec. '59	ACF
	100	Box	140,000	50	1	58,750	Dec. '59	May '60	Pullman-Standard
Monon	25	Cov. Hopper	140,000	41	1	62,600	Mar. '59	May '59	Pullman-Standard
	15	Cov. Hopper	140,000	41	1	62,000	Mar. '59	May '59	Pullman-Standard
	30	Cov. Hopper	140,000	41	1	62,200	Nov. '59	Feb. '60	Pullman-Standard
New Jersey, Indiana & Illinois	25	Box	100,000	40	6	51,000	Mar. '59	May '59	Pullman-Standard
New York Central	200	Flat ①	140,000	53	6	50,800	Aug. '59	Apr. '60	Pullman-Standard
	25	Flat	120,000	84	6	63,000	Nov. '59	Mar. '60	Fruehauf
New York, Chicago & St. Louis	8	Hopper ①	100,000	29	6	55,000	Jan. '59	Feb. '59	GATC
	3	Hopper ①	100,000	29	6	55,000	May '59	June '59	GATC
	13	Hopper ①	100,000	29	6	55,000	Aug. '59	Sept. '59	GATC
	500	Box ①	100,000	50	6	58,100	Aug. '59	Mar. '60	GATC
	8	Hopper ①	100,000	29	6	55,000	Sept. '59	Oct. '59	GATC
New York, New Haven & Hartford	15	Gondola	140,000	52	6	65,200	Apr. '59	June '59	Bethlehem Steel
Norfolk & Western	26	Cov. Hopper	140,000	29	3	52,400	Feb. '59	Apr. '59	ACF
	1,000	Hopper	140,000	36	9¾	52,600	Mar. '59	1959-60	Company Shops
	35	Box	100,000	50	6	61,800	Apr. '59	Aug. '59	Pullman-Standard
	10	Flat	100,000	48	6	63,200	May '59	Sept. '59	Ortner Co.
Norfolk Southern	250	Box	100,000	50	6	56,000	Feb. '59	July '59	ACF
North American Car	125	Flat	140,000	85	0	71,600	Mar. '59	June '59	Pullman-Standard
	3	Cov. Hopper	140,000	41	1	62,600	Mar. '59	May '59	Pullman-Standard
	55	Cov. Hopper	140,000	29	3	51,400	Apr. '59	Jul. '59	Greenville Steel Car
	5	Cov. Hopper	140,000	41	1	62,200	May '59	June '59	Pullman-Standard
	10	Cov. Hopper	140,000	41	1	62,200	Sept. '59	Sept. '59	Pullman-Standard
	100	Flat	140,000	85	0	69,000	Oct. '59	Apr. '60	ACF
	20	Flat	140,000	85	0	69,000	Dec. '59	Apr. '60	ACF
	150	Refrigerator	100,000	44	0	63,000	Dec. '59	May '60	Pacific Car & Fdy
Northern Pacific	50	Refrigerator	120,000	44	5½	84,450	Jan. '59	May '59	Pacific Car & Fdy
	350	Box	100,000	40	7	53,700	Mar. '59	1st Quart. '60	Company Shops
	50	Box	100,000	40	6	55,200	Mar. '59	1st Quart. '60	Company Shops
	100	Refrigerator	100,000	40	6	62,400	Mar. '59	2nd Quart. '60	Company Shops
	74	Cov. Hopper	140,000	29	3	50,700	Apr. '59	Apr. '59	Pullman-Standard
	25	Cov. Hopper	140,000	29	3	61,880	Sept. '59	Oct. '59	Greenville Steel Car
	75	Flat	140,000	85	0	60,000	Aug. '59	.....	GATC
	25	Cov. Hopper	140,000	29	3	61,880	Sept. '59	Oct. '59	Pullman-Standard
	400	Box	100,000	40	6	54,100	Sept. '59	Jan. '60	Pullman-Standard
	500	Box	100,000	50	6	56,900	Oct. '59	4th Quart. '60	Company Shops
	150	Refrigerator	135,000	49	10	73,400	Oct. '59	4th Quart. '60	Company Shops
	100	Refrigerator	120,000	44	5½	84,500	Nov. '59	June '60	Pacific Car & Fdy
Pacific Fruit Express	1,000	Refrigerator	120,000	44	10	.....	Oct. '59	1960	Company Shops
	25	Refrigerator	120,000	45	2	.....	Oct. '59	1960	Company Shops
Pennsylvania	2,600	Gondola	140,000	52	6	56,500	Mar. '59	Oct. '59	Company Shops
	1,300	Box	100,000	40	6	54,100	Mar. '59	Aug. '59	Company Shops
	674	Box	140,000	50	6	61,500	Mar. '59	Sept. '59	Company Shops
	207	Box	140,000	50	6	67,500	Mar. '59	Nov. '59	Company Shops
	118	Box	140,000	50	6	73,500	Mar. '59	Nov. '59	Company Shops
	1	Box	140,000	50	6	.....	Mar. '59	Dec. '59	Company Shops
	800	Box	140,000	50	6	60,500	Mar. '59	Dec. '59	Company Shops
	600	Box	140,000	50	6	.....	Mar. '59	Dec. '59	Company Shops
	300	Flat	140,000	53	6	62,200	Mar. '59	Dec. '59	Company Shops
	500	Box	100,000	40	6	.....	Mar. '59	Feb. '60	Company Shops
	1,000	Gondola	140,000	22	0	.....	Mar. '59	Feb. '60	Company Shops
	4,000	Hopper	140,000	40	11½	54,000	May '59	Sept. '59	ACF
	1,000	Hopper	140,000	40	11½	.....	May '59	Apr. '60	Pullman-Standard
	4,000	Hopper	140,000	40	11½	.....	June '59	Aug. '60	Bethlehem Steel
	1,000	Hopper	140,000	40	11½	.....	June '59	Mar '60	Greenville Steel Car
	1,700	Gondola	140,000	52	6	.....	May '59	June '60	GATC
Peoria & Eastern	40	Box	100,000	50	6	66,000	Jan. '59	Aug. '59	Company Shops
	45	Box	100,000	50	6	58,500	Jan. '59	Aug. '59	Company Shops
Pittsburgh & Lake Erie	500	Hopper	140,000	40	7¾	52,000	Jan. '59	1959-60	Company Shops
	500	Hopper	140,000	40	7¾	52,000	Feb. '59	1959-60	Company Shops
	100	Flat ①	140,000	53	6	50,800	Aug. '59	Apr. '60	Pullman-Standard
Reading	500	Hopper	110,000	33	0	40,000	June '59	1st Half '60	Company Shops
Rutland	2	Caboose	80,000	30	0	48,800	Jan. '59	June '59	International Car
Sacramento Northern	10	Cov. Hopper	140,000	41	1	62,700	Feb. '59	May '59	Pullman-Standard
	25	Gondola	140,000	52	6	55,800	Mar. '59	Jul. '59	ACF
St. Louis-San Francisco	100	Cov. Hopper	140,000	29	3	50,400	Oct. '59	Nov. '59	Pullman-Standard
	400	Box	100,000	50	0	.....	Dec. '59	May '60	Pullman-Standard
	1	Flat	140,000	83	0	110,300	Dec. '59	Mar. '60	Pullman-Standard
St. Louis Southwestern	100	Refrigerator	140,000	50	1	70,000	Jan. '59	Dec. '59	Pacific Car & Fdy
	200	Cov. Hopper	140,000	41	1	68,200	Apr. '59	Jul. '59	Pullman-Standard
	100	Cov. Hopper	140,000	41	1	68,400	Oct. '59	Dec. '59	Pullman-Standard
	150	Box	100,000	50	6	52,500	Dec. '59	Feb. '60	Pullman-Standard
	150	Box	100,000	50	6	52,500	Dec. '59	Jul. '60	Pullman-Standard
Seaboard Air Line	700	Box	100,000	50	6	57,400	Apr. '59	Sept. '59	Pullman-Standard
	300	Box	100,000	40	6	50,800	Apr. '59	Oct. '59	Magor

(Continued on page 102)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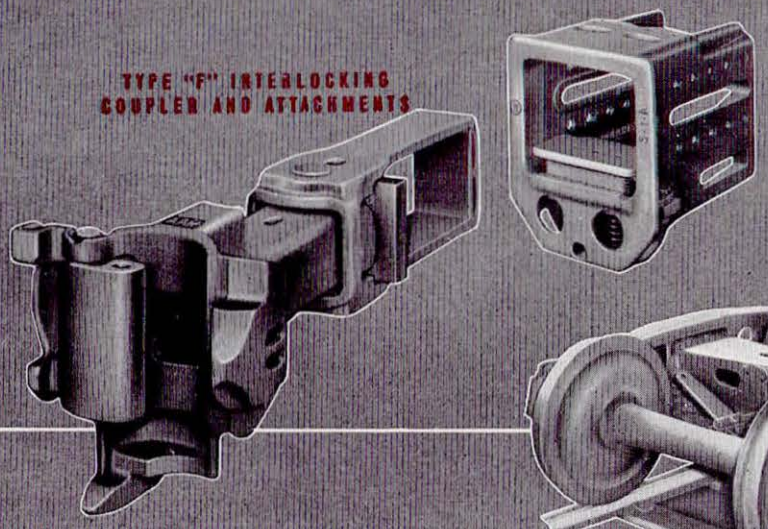
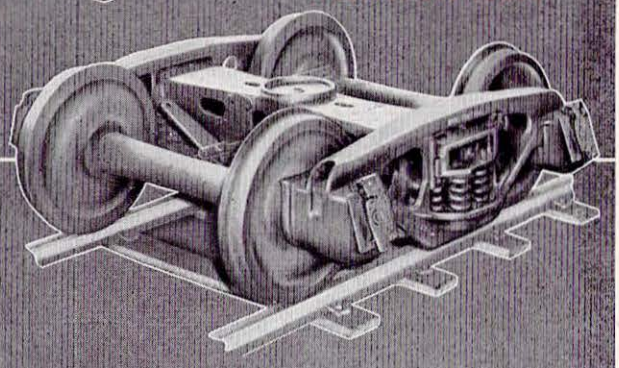


TYPE "F" INTERLOCKING COUPLER AND ATTACHMENTS

RIDE CONTROL (A-3) FREIGHT CAR TRUCK



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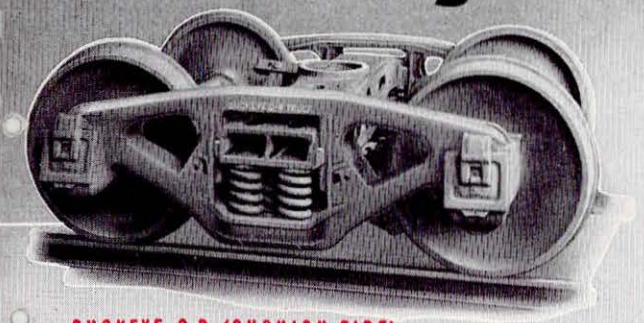
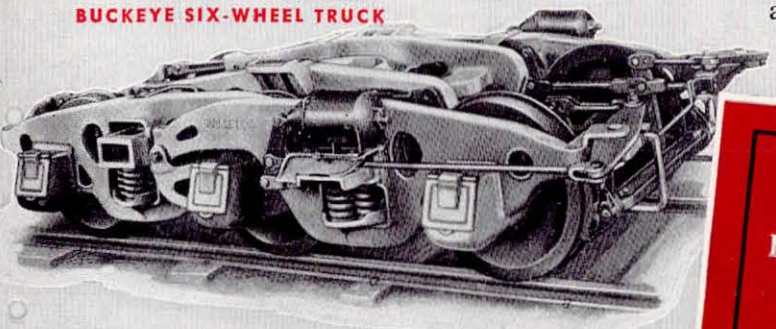


BUCKEYE C-R (CUSHION-RIDE) FREIGHT CAR TRUCK

BUCKEYE SIX-WHEEL TRUCK



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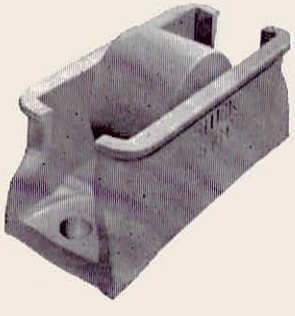

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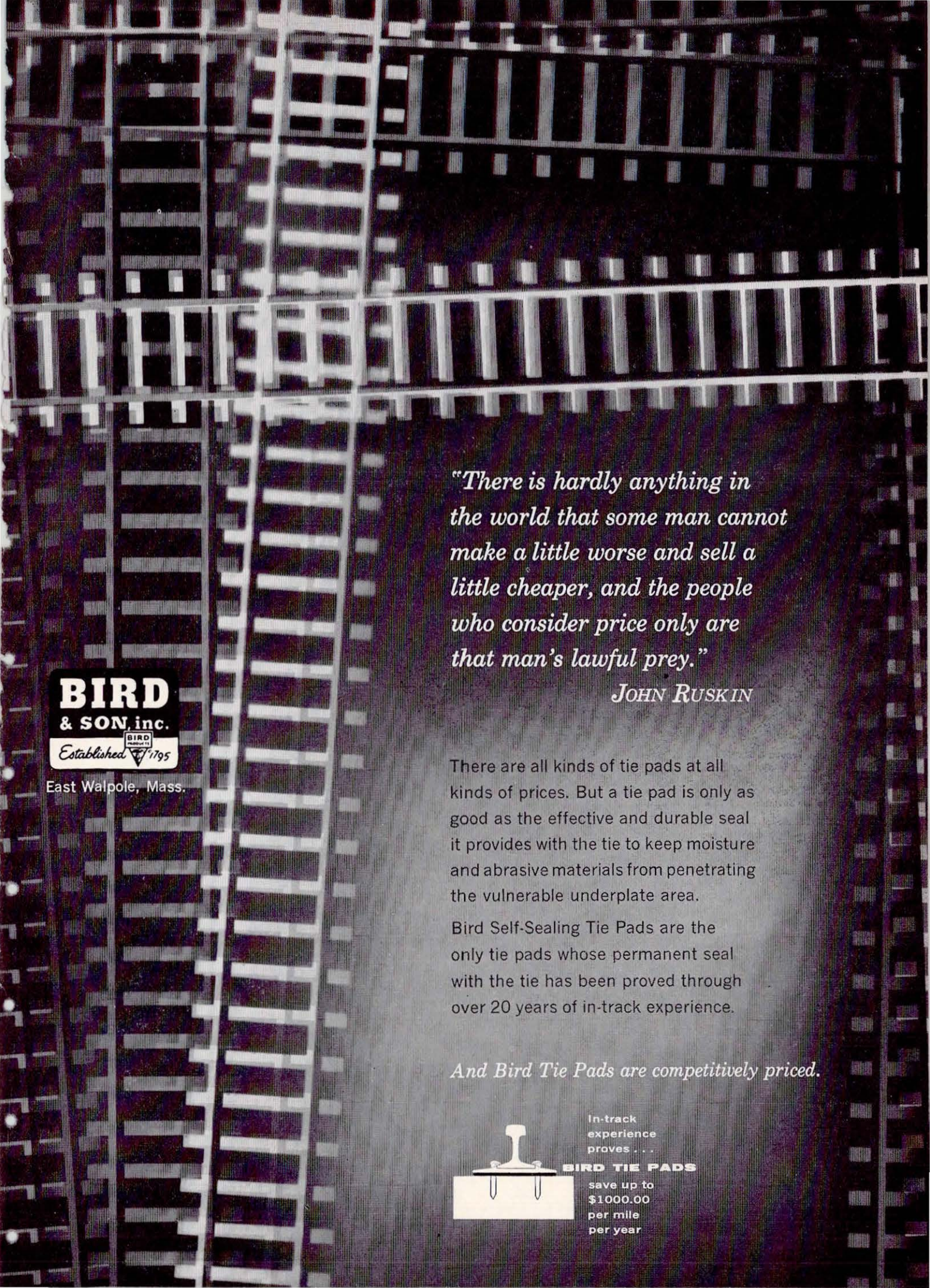

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FREIGHT-TRAIN CAR ORDERS *(Continued from page 97)*

Purchaser	No.	Type	Capacity	Length Ft.	Length In.	Weight	Ordered	Date Delivery	Builder
Southern	750	Gondola②	200,000	47	8	48,500	June '59	1st Quart. '60	Pullman-Standard
	200	Cov. Hopper②	200,000	29	3	43,600	June '59	Dec. '59	Magor
	180	Cov. Hopper②	200,000	41	5/16	50,800	June '59	Feb. '60	Magor
	75	Cov. Hopper②	180,000	52	10 1/2	57,500	June '59	Apr. '60	Magor
	35	Cov. Hopper	180,000	41	5/16	63,200	June '59	May '60	Magor
Southern Pacific	500	Box	100,000	50	0	60,000	Jan. '59	Aug. '59	Pacific Car & Fdy
	700	Refrigerator	140,000	50	1	66,000	Jan. '59	4th Quart. '59	Pacific Car & Fdy
	100	Refrigerator	140,000	50	1	78,000	Jan. '59	Jan. '60	Pacific Car & Fdy
	100	Cov. Hopper	180,000	41	1	67,600	June '59	Oct. '59	Pullman-Standard
	500	Box	100,000	50	0	60,000	June '59	3rd Quart. '60	Pacific Car & Fdy
	200	Refrigerator	140,000	50	0	78,000	June '59	Mar. '60	Pacific Car & Fdy
	300	Refrigerator	140,000	50	0	78,000	June '59	Apr. '60	Pacific Car & Fdy
	100	Flat	140,000	85	0	.....	Sept. '59	Dec. '59	GATC
Texas & Pacific	90	Box	100,000	50	6	55,000	1959	June '60	Company Shops
	113	Box	100,000	50	6	56,000	1959	.....	Company Shops
	35	Box	140,000	50	1	86,100	1959	May '60	Company Shops
	12	Box	140,000	50	6	74,400	1959	May '60	Company Shops
Trailer Train	100	Flat	140,000	85	0	73,000	Apr. '59	May '59	Pullman-Standard
	300	Flat	140,000	85	0	73,000	June '59	1959-60	Pullman-Standard
	300	Flat	140,000	85	0	70,300	July '59	Mar. '60	Pullman-Standard
	300	Flat	140,000	85	0	70,300	Nov. '59	Apr. '60	Pullman-Standard
	300	Flat	140,000	85	0	71,000	June '59	1959-60	ACF
	200	Flat	140,000	85	0	71,000	July '59	Feb. '60	ACF
	200	Flat	140,000	85	0	71,000	Nov. '59	Apr. '60	Bethlehem Steel
Union Pacific	800	Box	100,000	50	6	.....	Feb. '59	Sept. '59	Company Shops
	200	Box	100,000	50	6	.....	Feb. '59	Nov. '59	Company Shops
	150	Cov. Hopper	140,000	..	..	.....	Feb. '59	Apr. '59	ACF
	150	Cov. Hopper	140,000	..	..	.....	Feb. '59	June '59	Pullman-Standard
	100	Cov. Hopper	140,000	..	..	.....	Feb. '59	Oct. '59	GATC
	25	Flat	140,000	85	0	.....	Dec. '59	June '60	GATC
Union Tank Car	162	Tank	.....	..	..	.....	1959	1959-60	Company Shops
Wabash	150	Flat①	100,000	60	0	71,600	Feb. '59	1959	Company Shops
	50	Flat①	100,000	60	0	63,550	May '59	1959	Company Shops
	550	Box	100,000	50	6	58,000	Feb. '59	1959-60	Company Shops
	50	Cov. Hopper	140,000	41	3/4	62,600	Mar. '59	May '59	ACF
	100	Cov. Hopper	140,000	29	3	51,500	May '59	Jul. '59	Greenville Steel Car
Western Fruit Express	200	Refrigerator	140,000	50	0	.....	Nov. '59	July '60	Pacific Car & Fdy
Western Maryland	10	Flat	140,000	85	0	72,800	Mar. '59	June '59	Pullman-Standard
	30	Flat	100,000	53	6	54,500	Mar. '59	June'59	Bethlehem Steel
	25	Box	100,000	50	6	60,300	Apr. '59	Jul. '59	Pullman-Standard
	400	Hopper	140,000	40	6	54,000	Aug. '59	Aug. '60	Bethlehem Steel
Western Pacific	25	Flat	140,000	85	0	70,000	Feb. '59	Apr. '59	Pullman-Standard
	100	Box	100,000	50	0	57,500	Feb. '59	June '59	Pullman-Standard
	25	Gondola	140,000	52	6	56,000	Mar. '59	Jul. '59	ACF
	50	Box	140,000	50	0	66,000	Jul. '59	Oct. '59	Pullman-Standard
	50	Box	140,000	50	0	.....	Sept. '59	Feb. '60	Pacific Car & Fdy

① Steel frame
② Aluminum and steel
③ Steel-sheathed
④ Aluminum

1959 LOCOMOTIVE ORDERS

Purchaser	No.	Wheel Arrangement	Service	Weight Lb.	Horsepower	Date Ordered	Delivery Date	Builder
Atchison, Topeka & Santa Fe	15	....	Rd.-Sw.	.....	2,400	Jan. '59	June '59	E. M. D.
	3	....	Sw.	248,000	1,200	Jan. '59	May '59	E. M. D.
	9	....	Rd.-Sw.	390,000	2,400	Jan. '59	June '59	Alco
	35	....	Rd.-Sw.	390,000	2,400	Dec. '59	June '60	E. M. D.
	25	....	Rd.-Sw.	390,000	2,400	Dec. '59	1960	Alco
Birmingham Southern	1	B-B	Sw.	248,000	900	Mar. '59	Sept. '59	E. M. D.
	2	B-B	Sw.	248,000	900	Dec. '59	Apr. '60	E. M. D.
Canadian National	18	A1A-A1A	Rd.-Sw.	240,000	1,200	Feb. '59	Nov. '59	General Motors Diesel
	24	B-B	Rd.-Sw.	232,000	1,750	Feb. '59	Nov. '59	General Motors Diesel
	2	B-B	Sw.	248,000	1,200	Feb. '59	July '59	General Motors Diesel
	20	B-B	Rd.-Sw.	224,000	1,200	Feb. '59	July '59	General Motors Diesel
	26	B-B	Sw.	248,000	1,000	Feb. '59	4th Quart. '59	Mt'l. Loco Works
	50	B-B	Rd.-Sw.	232,000	1,800	Feb. '59	1959	Mt'l. Loco. Works
	44	B-B	Rd.-Sw.	232,000	1,800	Oct. '59	.....	Mt'l. Loco. Works
	10	A1A-A1A	Rd.-Sw.	240,000	1,200	Oct. '59	.....	General Motors Diesel
	40	B-B	Rd.-Sw.	224,000	1,200	Oct. '59	.....	General Motors Diesel
	8	B-B	Rd.-Sw.	248,000	1,800	Oct. '59	1st Quart. '60	E. M. D.
	3	B-B	Rd.-Sw.	254,000	1,800	Oct. '59	1st Quart. '60	E. M. D.
	9	B-B	Rd.-Sw.	248,000	1,200	Oct. '59	1st Quart. '60	E. M. D.
Canadian Pacific	1	C-C	Sw.	339,000	2,400	Jul. '59	Sept. '59	Mt'l. Loco. Works
Cedar Rapids & Iowa City	1	B-B	Sw.	230,000	900	Feb. '59	Aug. '59	E. M. D.
Chicago & Illinois Midland	2	B-B	Rd.-Sw.	248,000	1,325	Dec. '59	Sept. '60	E. M. D.
Chicago & North Western	1	C-C	Rd.-Sw.	254,000	1,750	Apr. '59	Aug. '59	E. M. D.
	6	C-C	Rd.-Sw.	254,000	1,800	Oct. '59	Mar. '60	E. M. D.
Chicago, Milwaukee St. Paul &, Pacific	52	....	Rd.-Sw.	.....	1,750	.....	1959	E. M. D.
Chicago, Rock Island & Pacific	11	B-B	Rd.-Sw.	242,780	1,800	Jul. '59	Feb. '60	E. M. D.
De Queen & Eastern	1	B-B	Sw.	241,000	1,200	Sept. '59	Feb. '60	E. M. D.
Duluth, Missabe & Iron Range	6	....	Rd.-Sw.	390,000	1,800	Nov. '59	Apr. '60	E. M. D.
Genesee & Wyoming	1	....	Rd.-Sw.	230,000	1,000	Feb. '59	Jul. '59	Alco
Grand Trunk Western	8	B-B	Frt.	240,000	1,800	Oct. '59	Mar. '60	E. M. D.
	3	B-B	Pass.	240,000	1,800	Oct. '59	Mar. '60	E. M. D.
	9	B-B	Sw.	241,000	1,200	Oct. '59	Mar. '60	E. M. D.
Illinois Central	15	B-B	Rd.-Sw.	240,000	1,800	Dec. '59	Mar. '60	E. M. D.
Kansas City Southern	3	B-B	Rd.-Sw.	248,000	1,750	Feb. '59	June '59	E. M. D.
Lake Superior & Ishpeming	1	B-B	Rd.-Sw.	346,000	1,800	Aug. '59	Nov. '59	Alco
Missouri Pacific	12	B-B	Rd.-Sw.	246,600	1,800	Aug. '59	Nov. '59	Alco
	24	B-B	Rd.-Sw.	243,000	1,800	Dec. '59	Apr. '60	E. M. D.
New York, New Haven & Hartford	30①	4-6	Gen. Pur.	284,500	1,800	Dec. '59	Aug. '60	E. M. D.
Northern Alberta	5	....	.....	.....	1,250	Aug. '59	Dec. '59	General Motors Diese
River Terminal	2	B-B	Sw.	250,000	1,200	Feb. '59	June '59	E. M. D.
Santa Maria Valley	1	B-B	Sw.	137,000	700	Feb. '59	June '59	General Electric
Seaboard Air Line	1	B-B	Rd.-Sw.	248,000	1,750	Aug. '59	Nov. '59	E. M. D.
Southern	48	C-C	Rd.-Sw.	375,000	2,400	June '59	1959-60	E. M. D.
Southern Pacific	20	B-B	Rd.-Sw.	248,000	1,750	.....	Sept. '59	E. M. D.
	15	....	Rd.-Sw.	.....	....	.....	Sept. '59	Alco
Tennessee, Alabama & Georgia	1	....	Rd.-Sw.	.....	1,800	Jul.' 59	Feb. '60	E. M. D.
Texas & Pacific	8	B-B	Rd.-Sw.	246,000	1,750	Jan. '59	June '59	E. M. D.

Purchaser	No.	Wheel Arrangement	Service	Weight Lb.	Horsepower	Date Ordered	Delivery Date	Builder
Toledo, Peoria & Western	1	B-B	Rd.-Sw.	233,000	1,800	May '59	Jul.' 59	Alco
Union Pacific	75	C-C	Rd.-Sw.	350,000	2,400	Feb. '59	Sept. '59	E. M. D.
	22②	....	Frt.	.....	8,500	June '59	Dec. '59	General Electric
Western Pacific	6	....	Rd.-Sw.	237,000	2,000	June '59	Dec. '59	E. M. D.

① Ordered in 1956; order confirmed in 1959.
② Gas turbine-electric.

1959 PASSENGER-TRAIN CAR ORDERS

Purchaser	No.	Type	Length Ft.	Length In.	Construction	Seating Capacity	Weight	Order Date	Delivery Date	Builder
Atchison, Topeka & Santa Fe	25	Baggage①	70	0	All Steel	..	95,000	June '59	June '60	Pullman-Standard
Baltimore & Ohio	3	Sleeper-Coach	85	0	All Steel	40	136,700	Apr. '59	May '59	Budd
Chicago & North Western	28	Coach	85	0	All Steel	161	126,000	Feb. '59	1959-60	Pullman-Standard
	8	Coach-Cab	85	0	All Steel	155	129,000	Feb. '59	1959-60	Pullman-Standard
City of Philadelphia	270	Subway-Coach	55	0	All Steel	56	54,000	Jul.'59	1960-61	Budd
Kansas City Southern	10	Baggage	70	0	All Steel	..	87,650	Mar. '59	1960	Pullman-Standard
Missouri Pacific	1	Sleeper-Coach	85	0	All Steel	40	136,700	Sept. '59	Sept. '59	Budd
New York Central	4	Sleeper-Coach	85	0	All Steel	40	101,400	.....	Oct. '59	Budd
New York City Transit Authority	100	Subway Coach	51	½	All Steel	44	74,600	Sept. '59	.....	ACF
	230	Subway Coach	..	..	.....	..	.....	Sept. '59	.....	St. Louis Car
Northern Pacific	4	Sleeper-Coach	85	0	All Steel	40	136,700	May '59	May '59	Budd
Southern Pacific	50	Baggage & Express	70	½	All Steel	..	82,600	Feb. '59	.....	St. Louis Car
	50	Baggage & Express	70	½	All Steel	..	82,600	Aug. '59	.....	St. Louis Car

① Shells only

LOCOMOTIVE ORDERS—EXPORT

Purchaser	No.	Wheel Arrangement	Service	Weight Lb.	Horsepower	Date Ordered	Delivery Date	Builder
Argentina—L. R. Development, Ltd.	11	C-C	Rd.-Sw.	210,000	1,800	Aug. '59	Feb. '60	General Electric
Brazil—Araraquara	12	B-B	Rd.-Sw.	249,000	1,750	1959	1960	E. M. D.
Chile—Anaconda Copper	2	B-B	Sw.	235,000	1,200	1959	1959	E. M. D.
Chile—Chile Expl. Co.	2	B-B	Sw.	235,000	1,200	1959	1959-60	E. M. D.
Cuba—Ferrocarriles Occidentales de Cuba	10	B-B	Rd.-Sw.	166,000	1,200	Sept. '59	Dec. '59	General Electric
	10	B-B	Rd.-Sw.	140,000	640	Sept. '59	Dec. '59	General Electric
	4	B-B	Sw.	110,000	560	Sept. '59	Dec. '59	General Electric
	2	B-B	Sw.	80,000	350	Sept. '59	Dec. '59	General Electric
Egypt—Egyptian Railways	16	B-B	Rd.-Sw.	155,000	875	1959	1960	E. M. D.
Iran—Iranian State Railways	13	B-B	Rd.-Sw.	156,000	875	1959	1959	E. M. D.
	20	C-C	Rd.-Sw.	220,000	1,800	1959	1959	E. M. D.
Korea—Korean National Railways	26	B-B	Rd.-Sw.	155,000	875	1959	1959	E. M. D.
Lebanon—Lebanon State Railways	4	0-6-0	Gen. Pur.	87,000	600	1959	1960	E. M. D.
Mexico—MGRS	2	B-B	Gen. Pur.	249,000	1,750	1959	1959	E. M. D.
Peru—Southern Peru Copper	2	B-B	Gen. Pur.	249,000	1,800	1959	1960	E. M. D.
Rhodesia—Rhokana Mine	1	C-C	Gen. Pur.	208,000	1,800	1959	1960	E. M. D.
Saudi Arabia—Saudi Government Rys.	4	B-B	Rd.	223,000	1,750	1959	1959	E. M. D.
Taiwan—Taiwan Government Railways	4	A1A	Rd.-Sw.	165,000	1,310	1959	1960	E. M. D.
	7	A1A	Rd.-Sw.	120,000	875	1959	1960	E. M. D.
Yugoslavia—Yugoslavia Railways	20	C-C	Rd.-Sw.	215,000	1,800	1959	1960	E. M. D.

Yards Still Lead A&B Work

Railroad construction activity in 1959 followed pretty much the same pattern as in recent years, with yard construction work again topping the list. A continuation of the same pattern can be expected in 1960.

These conclusions are based on replies to a questionnaire sent by Railway Age to 434 railroads in the United States, Canada and Mexico. Information was requested on projects under way in 1959 costing $1 million or more, and projects proposed for 1960 costing $500,000 or more.

Twenty-three railroads reported a total of 99 projects started or under way in 1959 costing over $1 million. New yards or improvements to existing yards, totalling $130 million, lead the parade with 31% of the total expenditures.

The project requiring the largest expenditure, $28.5 million, is a new marshalling yard the Canadian National is building at Montreal. Next in order is also a CNR project—a hump-retarder yard being built at Winnipeg, Man., at a cost of $24.2 million. The New York Central's new Robert R. Young classification yard at Elkhart, Ind., to cost an estimated $22.2 million, comes third.

As in 1958, track construction took second place, accounting for 18.4% of the funds reported for projects in the $1 million category. Included are seven branch lines in Canada (six being built by the CNR and one by the Quebec North Shore & Labrador) and one in Missouri by the MP.

Largest is the CNR's branch from Beattyville, Que., to Chibougamau and St. Felicien, costing $40.8 million.

Line changes comprised the third largest category of projects in 1959. Projects costing $1 million or more in this group aggregated $53.9 million, or 10.8% of the total. The largest job, by far, is the Western Pacific's $40-million main-line relocation from Oroville, Cal., to Intake to permit construction of the $2.5-billion Oroville flood control dam on the Feather river.

Bridge construction, totalling $49.7 million, accounted for 9.9% of the money reported.

(Continued on page 108)

HOW NEW YORK CENTRAL SYSTEM IS MASTERING THE HOT BOX PROBLEM THROUGH ADVANCED SCIENTIFIC SYSTEMS

NEW YORK CENTRAL's modernization program, involving scientific advances such as radioisotopes (for inspection) and electronic computer systems, also includes patented and operations-proved SERVOSAFE® Hot Box Detectives.* -■- Rounding off such large-scale improvements as expanded Centralized Traffic Control and improved repair techniques, NEW YORK CENTRAL has aimed at the heart of one of the principal causes of freight car delay and damage—the hot box. -■- The CENTRAL is able automatically to spot an overheated journal box out of harmless hundreds without unnecessary delays or risks . . . thanks to SERVOSAFE Hot Box Detectives installed at 32 strategic points on the main line. -■- Utilizing modern science in this way—using the advanced knowledge and skills of firms specializing in the functional applications of recently-developed scientific concepts—is basic to the CENTRAL's modernization program. -■- The SERVOSAFE system was developed and introduced by SERVO CORPORATION OF AMERICA, leaders in Systems and Functional Engineering. SERVOSAFE is patented* and time-tested, and is the *only* system which can use infrared technology for hot box detection efficiently, dependably . . . safely. -■- The NEW YORK CENTRAL is only one of 23 railroads to date which have purchased SERVOSAFE. This system insures protection of bridges and structures, safeguards rights-of-way, saves maintenance dollars. Our engineers will be glad to present facts and figures about the Detective System and the more recently perfected Carrier System and Automatic Alarm System . . . modular adjuncts to SERVOSAFE. Please write or phone:

*Protected by U.S. & Foreign Patents,
Including U.S. Patent No. 2,880,309
Other U.S. and Foreign Patents Applied For

Alfred E. Perlman (left), President, and John F. Nash, Vice President—Operation, New York Central System.

Railroad Products Division

SERVO CORPORATION OF AMERICA

Serving Safety Through Science

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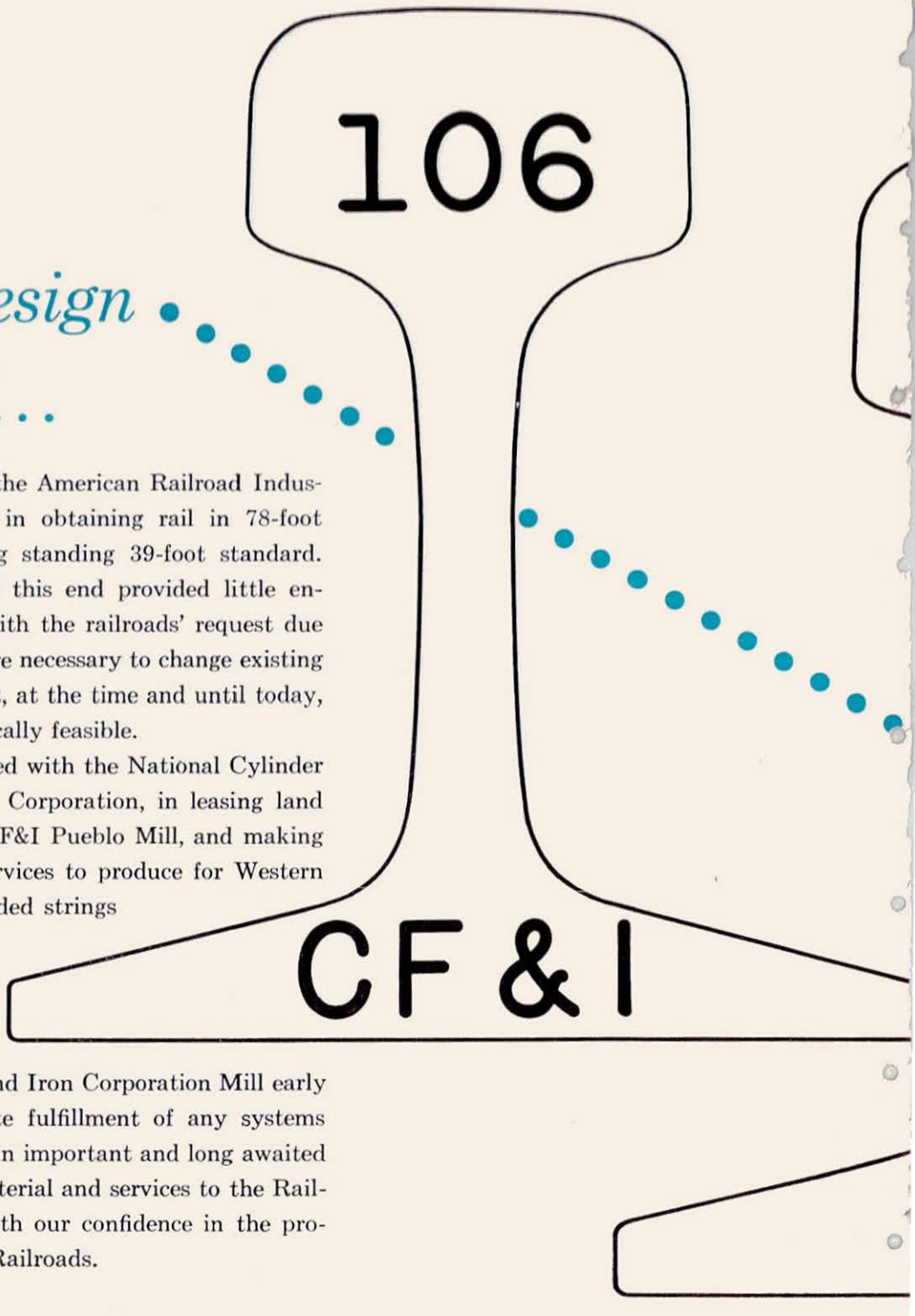
ANOTHER FIRST IN SERVICE



First in Design and NOW...

During the early 1950's the American Railroad Industry was actively interested in obtaining rail in 78-foot lengths in place of the long standing 39-foot standard. CF&I's investigation toward this end provided little encouragement in complying with the railroads' request due to the tremendous expenditure necessary to change existing production facilities. In short, at the time and until today, 78-foot rail was not economically feasible.

Now, CF&I has cooperated with the National Cylinder Gas, Division of Chemetron Corporation, in leasing land to NCG contiguous to the CF&I Pueblo Mill, and making possible an association of services to produce for Western Railroads 78-foot rail or welded strings of any specified length.

Establishment of the Electric Flash Butt Resistance Welding Plant adjacent to The Colorado Fuel and Iron Corporation Mill early in 1960 will enable complete fulfillment of any systems welded rail requirements — an important and long awaited achievement in providing material and services to the Railroad Industry in keeping with our confidence in the progressive future of American Railroads.

CF&I STEEL

THE COLORADO FUEL AND IRON CORPORATION

DENVER, COLORADO

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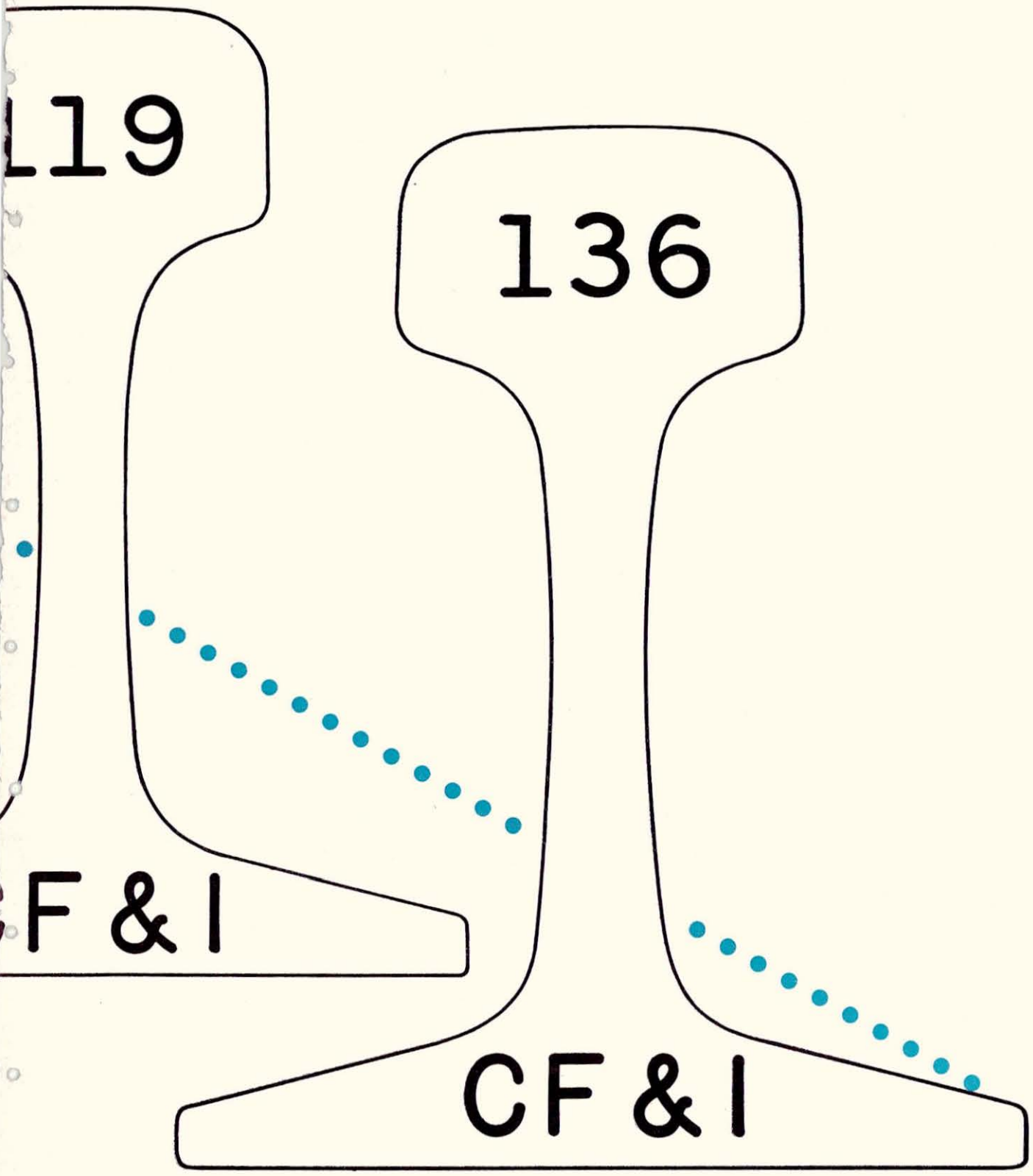
THROUGH COOPERATION



YARDS LEAD A&B WORK *(Continued from page 103)*

Thirteen railroads reported they planned to start construction projects costing over $500,000 in 1960. A total of 33 such jobs, with an aggregate cost of $45.1 million, was reported. Yard projects are in the lead, accounting for $15.4 million or 35.3% of the total.

CTC projects rank second among the categories of work planned for 1960. Total estimated cost of the projects in this group is $9.3 million, or 21.8% of the total.

Track construction, amounting to an estimated $6.8 million, accounts for 15.4% of the total.

Brief descriptions of the projects completed or under way in 1959, costing $1 million or more, follow. Figures in parentheses indicate the percentage of completion at the close of the year.

These are followed by projects costing $500,000 or more that are authorized to be started in 1960.

Jobs Completed or Under Way in 1959

Atchison, Topeka & Santa Fe: Car cleaning facilities, Corwith-Nerska, Ill., (100); freighthouse, Argentine, Kan. (20); yard improvement, Clovis, N. M., (3); line change, Williams, Ariz., to Crookton (25); Port Isabel freighthouse and trackage, San Francisco, Cal. (50); freighthouse and trackage, Hobart, Cal. (95).

Baltimore & Ohio: Chelsea freight station, Pier 63, North river, New York, $2,000,000 (100); reconstruction of Arthur Kill bridge, Staten Island, N. Y., $9,250,000 (75); Hawkins Point Marine Terminal, Baltimore, Md., $3,200,000 (100); yard and terminal facilities, Cumberland, Md., $15,000,000 (50); tunnel improvements on Parkersburg branch in West Virginia, $4,000,000 (5); extension of Little Kanawha River spur, Gilmer, W. Va., $1,450,000 (100); classification yard and engine terminal at Port Columbus and freighthouse and perishable goods yard at Fourth Street, Columbus, Ohio, $2,200,000 (100); grade crossing elimination at Marburg avenue, Cincinnati, Ohio, $1,000,000 (100); grade crossing elimination, Tennessee avenue-Ross avenue, Cincinnati, $1,006,000 (100); Congress Street Expressway, Chicago, $1,475,000 (85); construct two bridges due to Calumet Sag Channel improvements, Blue Island, Ill., $2,065,000 (10); reconstruction of 24 railroad bridges at various locations, $1,275,000 (70).

Canadian National: Construct new hump yard and facilities, Moncton, N. B., $15,000,000 (25); additions and alterations to yard, Cornerbrook, N.F., $1,460,000 (60); improvements and additions to yard, St. John's, N.F., $1,650,000 (20); main-line diversion between Turcot and Dorval, Que., $4,900,000 (82); construct new yard, Joffre, Que., $2,630,000 (98); construct new yard, Sarnia, Ont., $2,815,000 (99); construct freight terminal facilities Montreal, Que., $7,016,000 (99); construct new marshalling yard, Montreal, $28,500,000 (65); construct station facilities under Queen Elizabeth Hotel, Montreal, $3,385,000 (85); alterations to mouth of Mount Royal tunnel, Montreal, $1,100,000 (62); construct new office building, Montreal, $17,140,000 (10); extension to steam plant, Montreal, $1,790,000 (1); construct diesel maintenance shop, Montreal, $3,700,000 (99); construct main spur to Calard Ore Company, Atikokan, Ont., $1,920,000 (99); replace frame trestle with steel viaduct, Edson, Alta., $1,360,000 (50); construct new hump retarder yard, Winnipeg, Man., $24,200,000 (15); construct new diesel shop, Calder, Alta., $3,139,000 (90); freight and passenger car repair shop, Transcona, Man., $2,480,000 (25); grit blast plant and paint shop, Transcona, $1,065,000 (100); replace portion of ore-dock trestle, Port Arthur, Ont., $2,280,000 (50); install CTC on ten subdivisions, $11,545,000; branch lines between Terrace and Kitimat, B.C., $10,995,000 (100); Hillsport and Manitouwadge, Ont., $2,672,000 (100); Beattyville-Chibougamau-St. Felicien, Que., $40,825,000 (98); Bartibog and Heath Steele Mines, N. B., $3,220,000 (100); Sipiwesk and Thompson, Man., $4,500,000 (98); Optic Lake and Chisel Lake, Man., $10,165,000 (75).

Canadian Pacific: Convert double track subdivision to single track with CTC, $1,146,000 (60).

Chesapeake & Ohio: Replace steel spans in viaduct, Richmond, Va., $7,049,000 (70); reconstruct WB manifest yard, Russell, Ky., $5,463,300 (99); install CTC between Hinton and Sewell, W. Va., $2,226,170 (65); install CTC between Clifton Forge, Va., and Hinton, W. Va., $2,991,300 (10); install CTC between Cabin Creek Jct. and St. Albans, W. Va., $2,306,400 (10); construct industrial track, Scary, W. Va., $1,410,100 (70).

Chicago & North Western: The following projects are under construction in connection with Chicago's Northwest Expressway: Multiple-level subway at Halsted and Green streets, $10,000,000 (80); relocation of main track between North avenue and Division street, $3,500,000 (50); and subways at Jefferson Park, $5,500,000 (50); Addison, $5,000,000 (50); and Mayfair, $1,500,000 (100).

Chicago, Burlington & Quincy: install CTC between Kansas City and St. Joseph, Mo., $637,758 (100); construction of depot and facilities, St. Joseph, Mo., $748,771 (75); construct new Mississippi river bridge, including track changes, Quincy, Ill., $11,500,000 (35); construct addition to freighthouse No. 10, Chicago, $547,000 (90); construct new freighthouse, North Kansas City, Mo., $1,506,000 (40).

Delaware & Hudson: Relocate approximately 10 miles of main line to a new alinement on the west side of the city and install new connection to Adirondack branch, construct new yard, new diesel locomotive servicing facilities, new passenger and freight station and 10 grade separation structures, Saratoga Springs, $9,000,000 (100).

Galveston Wharves: Concrete pier and transit shed, pier No. 15, Galveston, Tex., $2,400,000.

Grand Trunk Western: Convert steam locomotive shops to heavy repair shop for diesel locomotives, terminal servicing and repairs, including fueling facilities, Battle Creek, Mich., $1,200,000 (60); construct terminal classification yard on new site and revamp portion of present Nichols yard for local industrial yard, Battle Creek, $4,000,000 (100); construct terminal and industrial classification yard with engine and car servicing facilities on new site, replacing present Belsay yard, Flint, Mich., $2,460,000 (100).

Great Northern: Extend CTC between Pacific Jct. and Dodson, Mont.; install CTC between Brookston and Kelly Lake and Brookston and Gunn, Minn. (80).

Gulf, Colorado & Santa Fe: Centralized traffic control between Birds and Ricker, Tex. (33); construct freighthouse and enlarge yard, Brownwood, Tex. (90).

Jersey Central Lines: Elimination of grade crossing, Port Reading, N. J., $1,357,575 (30).

Missouri Pacific: Construct 26.72-mile branch line and auxiliary tracks, to iron mine being developed by Meramec Mining Company, Cadet to Pea Ridge, Washington County, Mo., $4,046,750 (67); construct electronically controlled double-crest retarder classification yard, Kansas City, Mo., $13,700,000 (100).

New York Central: Installation of ABP signaling system between Weehawken, N. J., and Selkirk, N. Y., $1,700,000 (20); installation of traffic control system between Syracuse, N. Y. and Buffalo, $9,000,000 (85); installation of traffic control system between Berea and Toledo, Ohio, $3,700,000 (12); new Robert R. Young classification yard and supporting facilities, Elkhart, Ind., $22,158,000 (100); new classification yard and supporting facilities, Avon, Ind., $14,600,000 (40); reconstruct Cuyahoga River bridge, Cleveland, Ohio, $5,000,000 (100); reconstruct Little Calumet River bridge, Calumet City, Ill., $2,250,000 (100); underpass carrying lake front line tracks over East Inner Belt Expressway near 30th street, Cleveland, $1,750,000 (100); east approach to the central viaduct over tracks of the Cleveland Union Terminal, Cleveland, $6,600,000 (100); Third Street viaduct,

munications and electronic equipment makes it possible to take the assignment and disposition of motive power out of local or regional control. This step will result in making sure power is where it is needed when it is needed. It will permit the most efficient use of each unit.

More M/W Work

For maintenance-of-way forces in 1960, the sun may shine somewhat brighter than it has been. That is, if nothing happens to interfere seriously with present plans.

The brighter prospects are reflected in figures submitted by most of the Class I roads indicating the extent of the rail and tie-renewal programs they have projected for 1960. These figures indicate that the amount of new rail to be laid and the number of ties to be inserted by railroads as a whole will rebound from the low levels reached in 1959 and 1958. To be specific, rail renewals will turn upward to the extent of about 38%, while the projected gain for tie insertions is slightly more than 21%.

These percentages, however, are more impressive than the actual figures. If railroads are able to carry out present plans, they will lay about 675,000 net tons of new rail in 1960. Last year they laid an estimated 492,000 tons; in 1958 they laid 406,000 tons. In both 1959 and 1958 rail programs were whittled down to abnormally low levels by recession conditions and the strike of steel workers. When the projected rail programs for 1960 are compared with the 1953-57 five-year annual average of 963,200 tons, it's apparent that activity in this area has a long way to go before it can be described as "normal."

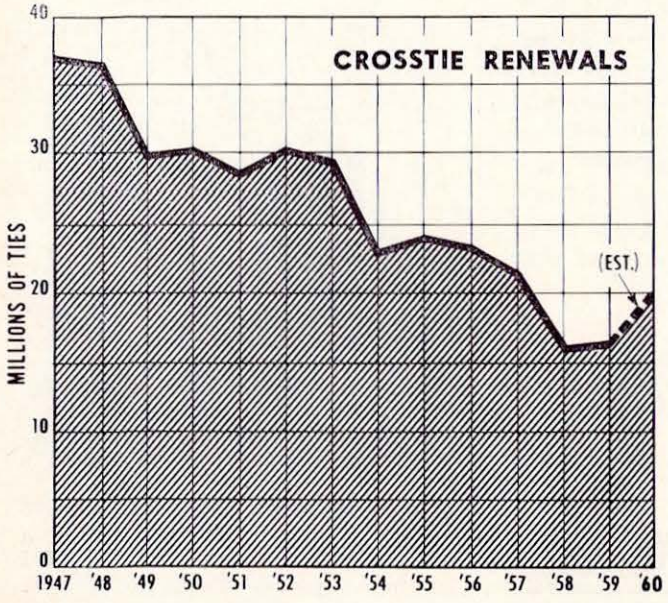
Tie renewals tell pretty much the same story. Present plans call for insertion of 19,700,000 ties this year by Class I roads. In 1959 these roads inserted an estimated 16,250,000 ties, or only slightly more than the 16,029,558 installed in track in 1958. During the five-year period 1953-57, Class I roads installed an average of 24,573,000 ties per year. Thus, tie renewals in 1960, like new rail programs, will still fall far short of what they were a few years ago, and even in those years they were none too adequate.

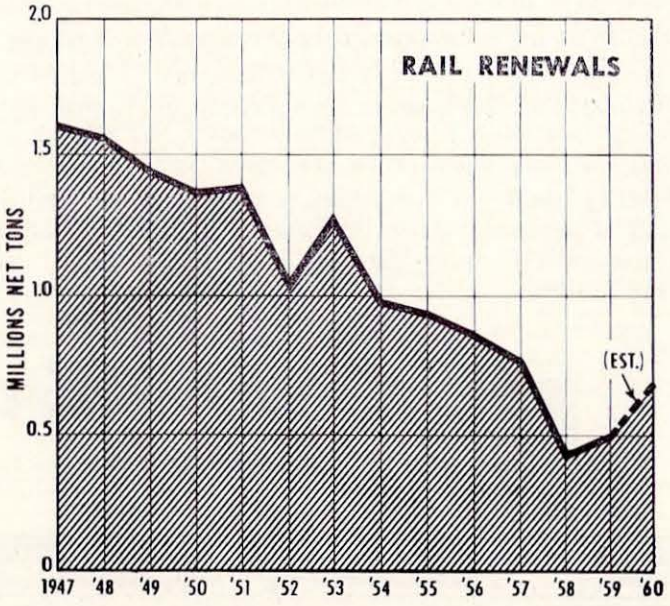
After two years of sub-normal programs it is logical to expect an increase in activity on the part of the M/W forces. In fact, in view of the generally optimistic predictions for 1960 made by economists and business men, including top railroad officers, it might be expected that railroads would take advantage of the opportunity to catch up on deferred maintenance in 1960 to a greater extent than indicated by present plans.

But there are factors that are doubtless having a restraining influence on the budget makers. Among them is the uncertain labor situation, including the

(Continued on page 110)

TRESTLES OF PRESTRESSED CONCRETE made their debut in railroad service in 1959. This one carries the double-track line of the Atlantic Coast Line across the Salkehatchie River near Yemassee, S. C.





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WHAT'S AHEAD?

(Continued from page 109)

pending wage demands of the railroad brotherhoods. Measures being used to prolong the life of rail, and the fact that tie renewals are to some extent governed by cyclical factors, may also have a bearing on current renewal programs.

Meanwhile, railroads are pushing programs to mechanize and reorganize their M/W forces. These will be continued in 1960, and with special vigor if there should be another wage boost to take into consideration.

M/W officers long since learned that they've got to save money on labor if they expect to obtain funds for much-needed material. An example of how this works in practice was related recently by the top maintenance officer of a large road. He told how sections had been lengthened on his road and mechanized gangs formed to do most of the track work. The resulting savings, he said, were sufficient to permit doubling the new-rail program for 1960, compared with 1959, with only a nominal increase in total expenses.

Such efforts, which are taking place on a nationwide scale, are bound to have a drastic effect on the number of

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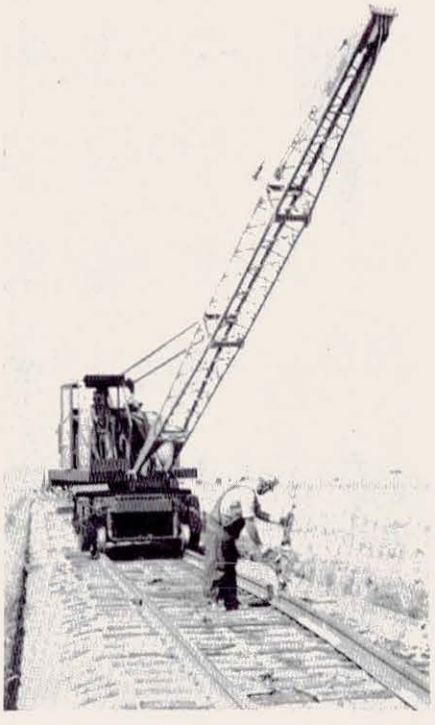
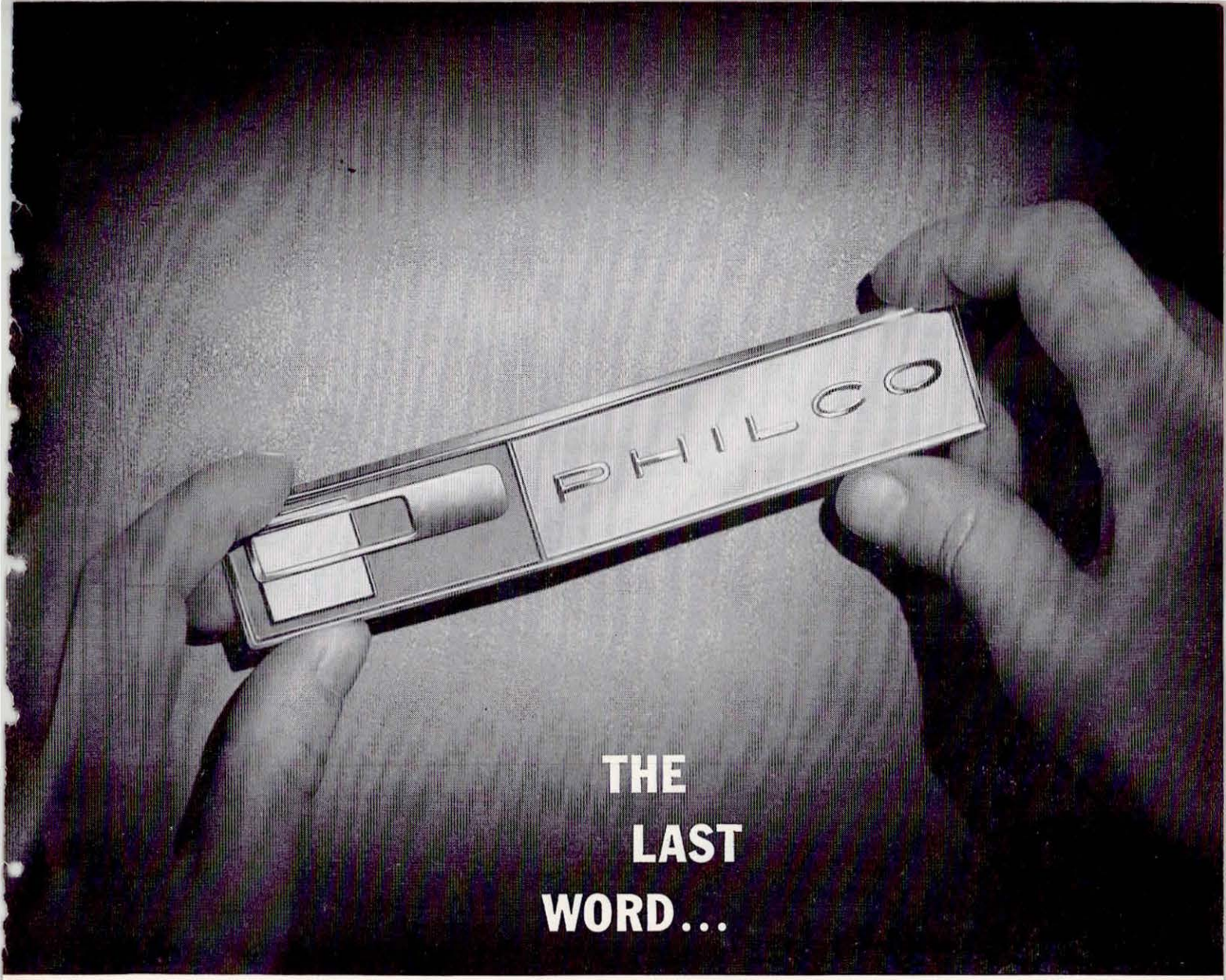


RAIL RENEWAL WORK in 1960 will be up considerably from last year. Here a crane sets a length of long welded rail in final position on the Rock Island.



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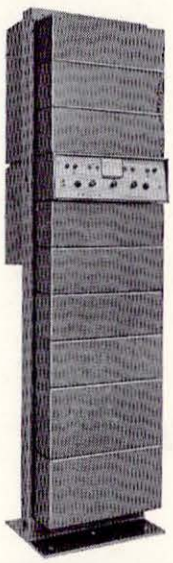

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track workers. In 1958 the average number of extra-gang men, section men and other maintenance-of-way laborers in the service of Class I roads was less than half what it was in 1952. The number of such employees may fluctuate from year to year with business conditions. But the general trend will continue downward as mechanization of maintenance work becomes more intensive and extensive. This process will undoubtedly continue in 1960.

This year will also see a continuation of the trend to continuous welded rail. A considerable amount of such rail to be laid in 1960 and following years will be welded at fixed plants being established or planned for installation at rail mills throughout the country.

Another event to look for in 1960 is the installation of extensive service tests of prestressed concrete ties. Two such installations of 700 ties each will be made early in the year, one on the Seaboard Air Line, the other on the Atlantic Coast Line. In both instances, the concrete ties will be placed under butt-welded rail. Other roads also are planning test installations of concrete ties.

Signaling Expenditures

Railroad spending for improved and expanded signaling will total between $50 and $60 million this year, with heaviest expenditures going for subway facilities, retarder yards and CTC. New York City's Transit Authority plans to spend upwards of $15 million on a signal modernization program, while Chicago's Transit Authority figures to begin signal work on its Lake Street line.

Reports from railroads indicate work will begin on six, or possibly eight, retarder classification yards in 1960. New York Central plans two; the Missouri Pacific will get under way with its new yard at North Little Rock, Ark.

Considerable CTC activity will occur during the year, with several roads moving ahead on the big job of CTC-ing their main lines—such roads as Santa Fe, C&O, CNR, NYC, NP, SP and UP. Surveys indicate about 1,500 miles of CTC will be installed on all roads in the next 12 months.

Hotbox detection, which moved into prominence during 1959, will continue to make gains in 1960. Several roads talk of system-wide projects; one road, with this in mind, hopes it can monitor detectors at several locations from a central office. Communications get a play in this kind of setup, including wayside-to-train radio, since it will be necessary to transmit hotbox information to train crews immediately.

One eastern railroad, which has such an installation, instructs train crews to phone the dispatcher, who has read the tape. He tells them the location of the hotbox. Another railroad plans such an installation, but will put the hotbox-indication unit at the detector-control signal. Thus the crew can find hotboxes. They will inform the dispatcher as to the disposition of cars with hotboxes. When the train is ready to leave, the dispatcher will clear the signal, thus resetting the indication equipment for the next train.

Western roads, with longer distances between wayside inspection points, have moved slowly in installing the new detectors in the past year. Now there are signs this will change in 1960. The reason is, the detector units can now be operated in conjunction with the signal system to set the signal when a hotbox is detected Thus, in a sense, the train crew will be monitoring itself.

Railroad communications, which have grown rapidly in recent years both in terms of facilities and importance, will continue to expand this year. Expenditures may go as high as $15 million, with most of the outlays being for radio, carrier and microwave.

About 2,500 radio sets will be installed on locomotives, cabooses, and in wayside offices. The total includes portable walkie-talkie sets that are used by M/W and mechanical departments as well as train crews. In addition, the replacement market for radio equipment will begin to be felt this year as many roads have equipment over 10 years old, and must replace with the new split-channel sets.

The upsurge in microwave interest seen in 1959 will carry over into 1960. The Denver & Rio Grande Western is already well along with its 700-mile system, and the Southern Pacific's 760-mile system will probably be started this year. Another 1,500 miles of microwave are in the planning stages, with possible starts late this year.

Carrier equipment will continue at about the present rate—1,500 voice terminals and repeaters installed annually, as well as 1,000 units of printing telegraph equipment.

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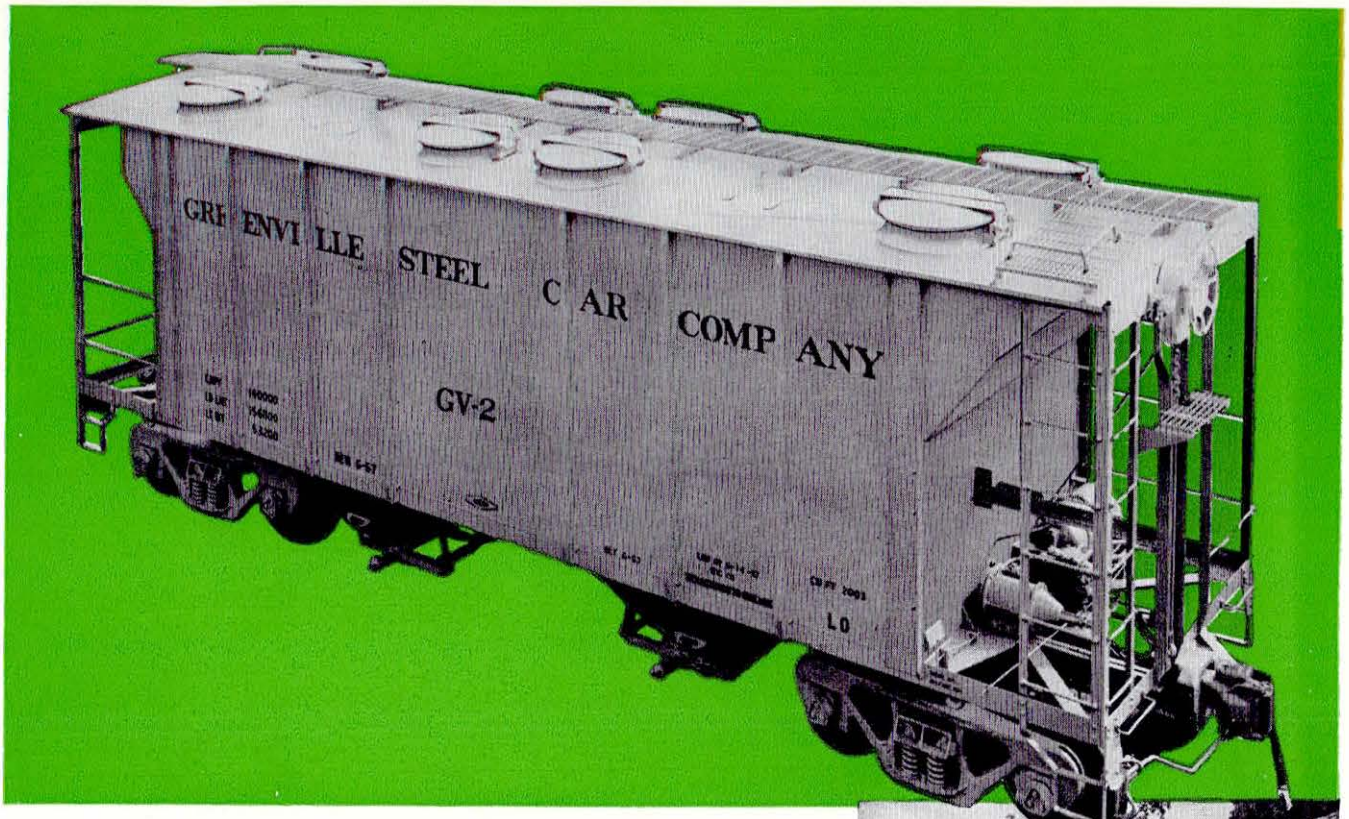

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MARKET OUTLOOK *at a glance*

Carloadings

Carloading figures for the week ended Jan. 9, 1960, were not available when this issue of Railway Age went to press.

Loadings of revenue freight for the week ended Jan. 2 totaled 483,012 cars; the summary, compiled by the Car Service Division, AAR, follows:

REVENUE FREIGHT CAR LOADINGS
For the week ended Saturday, Jan. 2

District	1960	1959	1958
Eastern	76,348	73,569	71,432
Allegheny	97,416	81,277	84,712
Pocahontas	41,178	40,473	39,772
Southern	87,434	90,459	94,268
Northwestern	49,656	50,575	51,379
Central Western	93,115	94,054	89,396
Southwestern	37,865	37,812	41,325
Total Western Districts	180,636	182,441	182,100
Total All Roads	483,012	468,219	472,284
Commodities:			
Grain and grain products	33,080	43,950	42,897
Livestock	3,329	3,046	3,890
Coal	93,705	98,066	98,127
Coke	10,033	8,164	6,741
Forest Products	27,307	26,302	28,694
Ore	21,731	12,954	15,519
Merchandise l.c.l.	28,512	31,741	34,907
Miscellaneous	265,315	243,996	241,509
Jan. 2	483,012	468,219	472,284
	1959	1958	1957
Dec. 26	468,752	432,148	409,598
Dec. 19	615,365	571,147	590,314
Dec. 12	641,972	589,353	603,140
Dec. 5	649,639	594,884	617,836

PIGGYBACK CARLOADINGS.—U. S. piggyback loadings for the week ended Jan. 2, 1960, were not available when this issue went to press.

IN CANADA.—Carloadings for the ten-day period ended Dec. 31, 1959, totaled 79,312 cars, as compared with 64,536 cars for the previous seven-day period, according to the Dominion Bureau of Statistics.

Totals for Canada	Revenue Cars Loaded	Total Cars Rec'd from Connections
Dec. 31, 1959	79,312	33,164
Dec. 31, 1958	81,345	33,293
Cumulative Totals		
Dec. 31, 1959	3,854,918	1,411,989
Dec. 31, 1958	3,771,008	1,407,714

Capital Improvements

► *Santa Fe.*—Will spend about $100,000,000 for modernization and improvement projects in 1960. The program is greater (by about $13,000,000) than for any prior year and compares with expenditures totaling approximately $60,000,000 in 1959. Spending in '60 will be divided about equally between new equipment and improvements to roadway and other facilities. Major items in the program: acquisition of 60 2,400-hp locomotives (RA, Dec. 21, 1959, p. 63), 50 new baggage cars and about 2,500 new freight cars; installation of 227 miles of continuous welded rail; construction of a new freighthouse at Kansas City, Mo.; consolidation of yard facilities at Brownwood, Tex.; installation of microwave communications equipment at various points; further installations of CTC and traffic reversal signaling; and sizeable expenditures in connection with Arizona line change projects.

New Facilities

► *Central of Brazil.*—Ordered CTC equipment from Union Switch & Signal Division of WABCo. for installation on 65 miles of single track on the Rio de Janeiro-Sao Paulo main line between Volta Redonda and Cruzeiro.

► *Delaware & Hudson.*—Will build a new freight car paint shop at Oneonta, N. Y., at an approximate cost of $250,000. The facility is scheduled for completion by Sept. 1. It's part of a $3,700,000 capital improvement program for 1960 approved by D&H directors.

► *Milwaukee.*—Improvements to road and other property in 1960 will involve expenditure of approximately $7,622,000. Major projects: track improvement and rail replacement program covering 144 miles of track, $1,136,000; construction of new car repair facilities at Bensenville Yard near Chicago, $910,000. Bensenville layout will include metal shop, blacksmith shop, welfare building, storage buildings and about 20,000 ft of track. Plant will have capacity to repair about 120 cars daily.

► *New York Central.*—Ordered equipment from General Railway Signal Co. for the installation of an automatic retarder classification yard at Indianapolis, Ind. The 55-track Avon classification yard will be equipped with the GRS Classmatic automatic switching and automatic retarder controls. A 192-ft master and six 92-ft group retarders will be installed, as well as impulse track circuits and cab signals. Signal equipment for two yard track indicators and a remote control interlocking at West Avon yard have also been ordered in connection with this project.

► *Santa Fe.*—Subsidiary Chanslor-Western Oil and Development Co. purchased 45 acres of land for future development east of Santa Fe's Corwith Yard, Chicago.

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ON CLASS I RAILROADS ALONE

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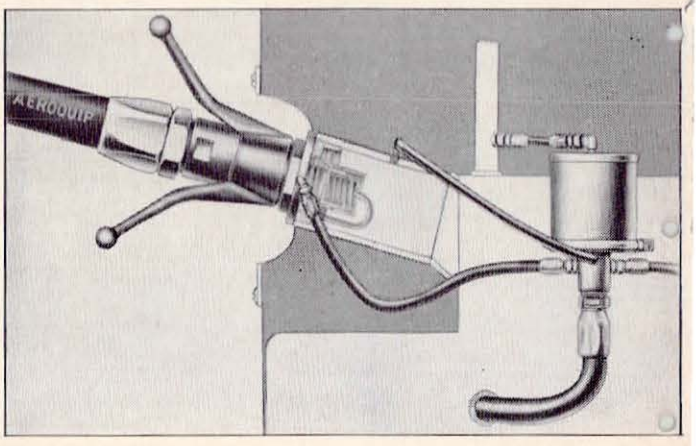

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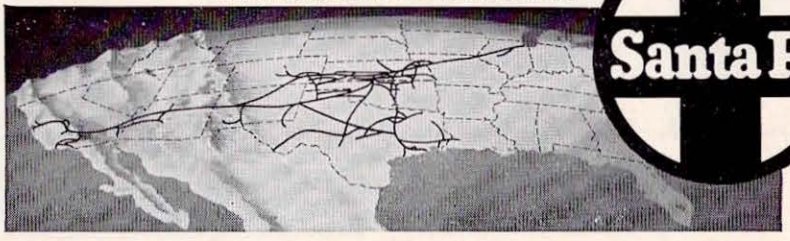

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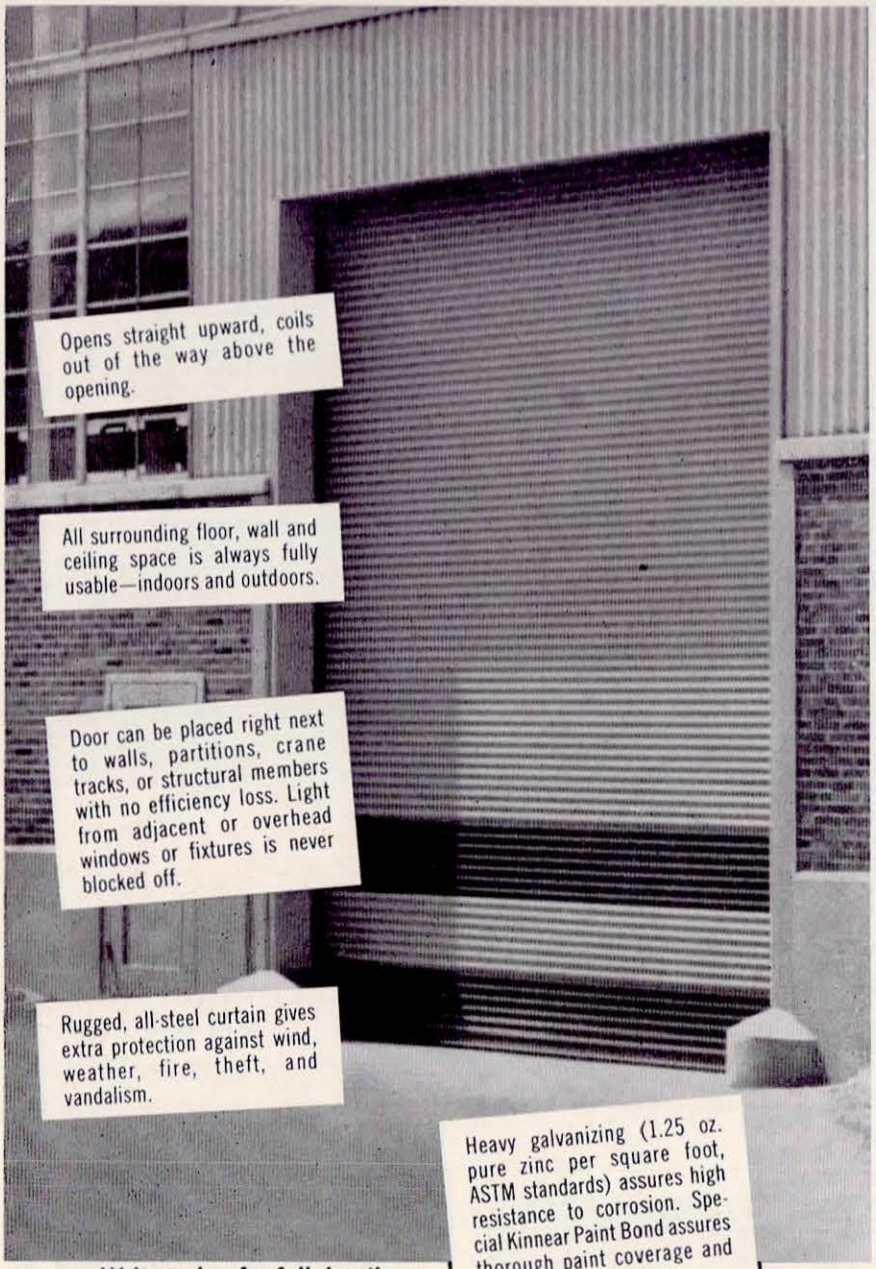
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A&B PROJECTS IN '59

(Continued from page 108)

carrying Columbus Expressway over tracks, Columbus, Ohio, $2,601,000 (100); underpass carrying Edsel Ford Expressway under tracks of the Detroit Belt Line near Harper avenue, Detroit, Mich., $1,900,000 (100).

Norfolk & Western: Construct 32 additional grain storage bins, including conveyors, dust collecting and temperature control system, Sewells Point, Va., $1,240,000 (100).

Northern Pacific: Installation of CTC and removal of second main track between Garrison and Missoula, Mont., $1,400,000 (95); installation of CTC between Park City and Livingston, Mont., $1,550,000 (16); rebuild 50 piers and shift girder spans of bridge at Sand Point, Ida., $2,100,000.

Pennsylvania: The following projects are reported at a total cost of $81,959,-311: Elimination of grade crossing at Grove street, by undergrade bridge, Metuchen, N. J. (100); abandonment of main track and installation of CTC between Rockville and Emporium, Pa. (68); construction of vertical lift bridge over Cuyahoga river, joint with New York Central, Cleveland, Ohio (75); additional classification and departure yard, Wheelock, Ohio (25); passenger terminal improvements, Pittsburgh, Pa. (87); yard development, Conway, Pa. (97); extend River branch to Buck Hill, Powhatan, Ohio (97).

Quebec, North Shore & Labrador: Construct 37-mile branch line to serve iron ore deposits in Carol Lake area, Northern Land Company, Ltd., Labrador, Can., $11,000,000 (60).

Southern: Installation of CTC between Bristow and Orange, Va., $1,-280,000 (10); installation of automated wheel shop machine for Coster shop, Knoxville, Tenn., $1,516,000 (98); installation of hotbox detectors, system, $2,240,000 (2).

Union Pacific: Construction of reinforced concrete freight station, East Los Angeles, Cal., $2,565,000 (100); install CTC between Denver, Colo., and Carr, Wyo., $2,102,470 (50); construction of freight station, Albina, Ore., $2,533,000 (100); convert existing machine shop building and construct addition to diesel servicing shop with outside fueling, watering and sanding facilities and construct steel freight car repair shop and steel buildings for store, locker, washroom, office, mill and blacksmith facilities, including paved roads and parking areas, Albina, $2,-250,000 (98).

Wabash: New concrete and steel bridge over the Illinois river, including 2.85 miles of line relocation, Valley City, Ill., $3,993,100 (100); replace bridge over Calumet Sag channel, Palos Park, Ill., $1,591,029 (30).

Western Pacific: Relocate existing main line between Oroville, and Intake, Cal., to permit construction of the Oroville Dam, including construction of four bridges and five concrete lined tunnels, $40,000,000 (35).

Projects for 1960

Atlantic Coast Line: Replacing existing swing drawspan with a rolling-lift drawspan and approach girder spans, Lake Monroe, Sanford, Fla., $563,715; constructing 10.78 miles of track, Walterboro, S. C., $537,698.

Baltimore & Ohio: Reconstruction of Fort Avenue highway bridge, Baltimore, Md., $700,000; elimination of grade crossing on East Main street, Chillicothe, Ohio, $1,250,000; elimination of Madison Road grade crossing, Cincinnati, Ohio, $2,335,000; reconstruction of bridge over Wabash river due to flood control project, Vincennes, Ind., $730,000; reconstruction of 29 railroad bridges at various locations, $1,100,000.

Canadian National: Construction of new classification yard, Toronto, Ont., $8,400,000; ventilation of track-level area of Central Station, Montreal, Que., $1,240,000; construction of 6.7-mile main spur to serve Deas Island, Vancouver, B. C., $1,880,000; install CTC on 14 subdivisions, $5,015,000.

Chicago, Rock Island & Pacific: Replace pile trestle with six deck-plate girder spans on concrete piers and abutments, Round Pond, Ark., $800,000; construct railroad bridges over Willow avenue, Enid, Okla., $650,000.

Delaware & Hudson: Install CTC for single track operation between Afton, N. Y., and Crescent, $1,460,000; install CTC between Hudson, Pa., and Carbondale, $635,000.

Illinois Central: Construct yard, siding and industry track extensions at various locations, $790,000.

Missouri Pacific: Construct electronically controlled retarder classification yard, North Little Rock, Ark., $6,691,200.

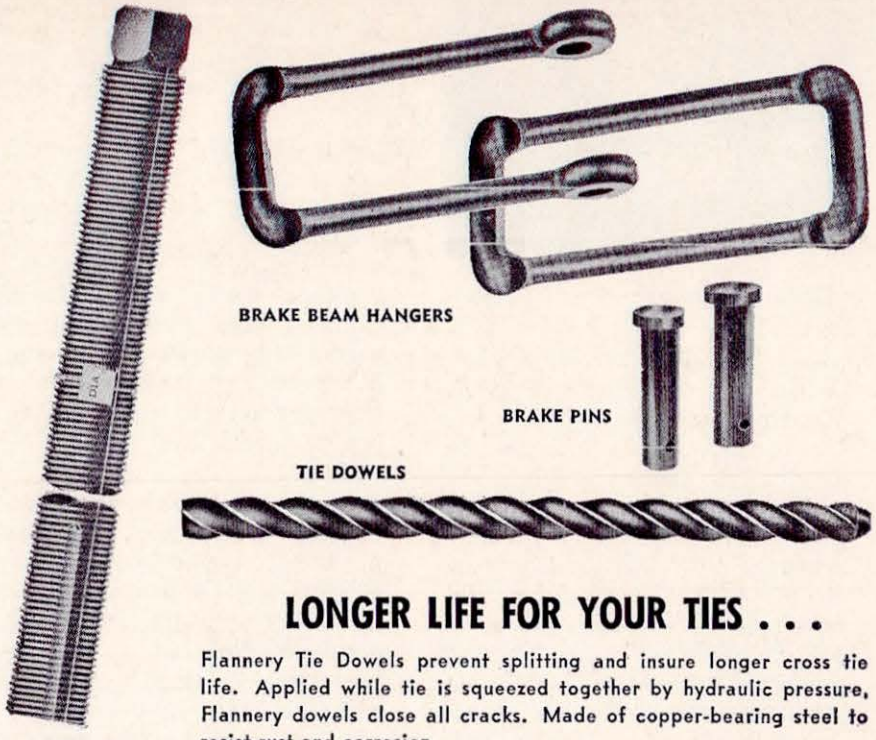
Norfolk & Western: Construct connections with Virginian at four locations, $1,873,300; construct new siding and extend a number of other sidings and tracks, $1,501,000; install traffic control at three locations, $2,214,000.

Pennsylvania: The following projects have been authorized at a total cost of $2,338,209: Construct additional facilities at TrucTrain terminal, relocate Meadows Branch No. 1 and pave parking area, all at Kearny, N. J.; construct siding and trestle for handling bulk flour, Jersey City, N. J.; install automatic crossing protection at five streets, Newcomerstown, Ohio; relocate facilities due to construction of Grand Rapids Expressway, Grand Rapids, Mich.; construct new freight-forwarder house at 55th street, Chicago; install CTC from Indianapolis to Lebanon, Ind., and block clearance indication from Lebanon to Frankfort, Ind.

Quebec, North Shore & Labrador: Bridge replacement, Seven Islands, Que., $500,000.

St. Louis-San Francisco: Construct new freighthouse, Tulsa, Okla., $530,000; construct facilities for car forwarders, Memphis, Tenn., $520,000.

Spokane International: Replace timber trestle over Pend Oreille river with steel girder spans, $845,000.



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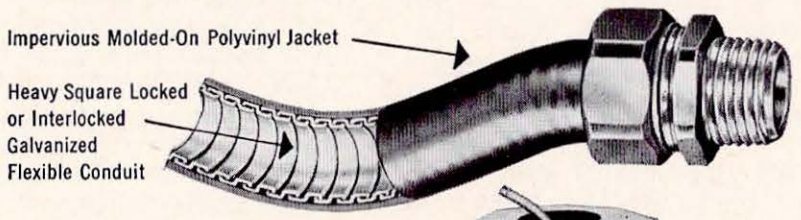

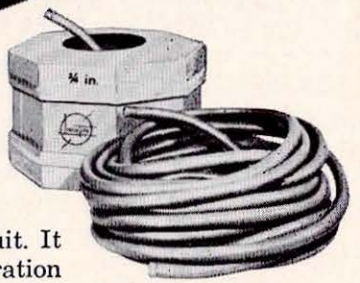

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You Ought To Know...

Dramatic changes in operating methods lie ahead for the railroads, C&O Vice President Owen Clarke told the Huntington, W. Va., Engineers Club last week. Mr. Clarke said he "would not be surprised to see trains within 10 or 20 years running on unsignaled plastic rails at speeds we can only dream of now, controlled by huge electronic brains. I certainly would anticipate that classification yards will be made so automatic that electronic controls will handle practically the entire job of reassembling incoming cars into outbound trains."

A perfect safety mark was achieved in Pullman operation in 1959 for the eighth consecutive year. From 1951 through 1959, nearly 84 million passengers traveled a total of 53 billion passenger-miles by Pullman without a single fatality.

PRR wants to abandon its 69-year-old Exchange Place station in Jersey City, N. J. In its petition to the ICC, the road said the change would save $250,000 a year in maintenance costs, operating expenses and taxes. New York-bound commuters would switch to the Hudson Tubes at Newark instead of Jersey City.

A new commuter-aid plan will be presented to the New Jersey legislature around Feb. 1, Gov. Robert Meyner said last week. He gave no details of the program, which will be a substitute for a plan (involving diversion of New Jersey Turnpike surpluses to commuter aid) which voters turned down last November.

Union Pacific piggyback traffic scored substantial gains in 1959. Operations involving railroad-owned trailers and flat cars increased about 20%; traffic using customer-owned equipment more than doubled.

Railroad employment totaled 796,264 in mid-December—a 1.56% increase over the November figure, but 3.27% below December 1958.

Alton & Southern resumed normal operations last week with settlement of an 11-day trainmen's strike. The issue, contract provision permitting suspension of trainmen before hearing in disciplinary cases, was settled amicably. "The settlement was satisfactory to all concerned," said Wayne Harriss, A&S assistant general manager.

Rail-Trailer and Railway Express are cooperating in a series of tests that mark R-T's entry into the power leasing field. Experimental runs include Chicago-Philadelphia and Cincinnati-Atlanta service and operations in Illinois, Wisconsin and New York. E. F. Ryan, R-T president, said the tests "are part of a joint nationwide study which will define the advantages of long-range rail-trailer programming for Railway Express. We're confident that R-T methods will show significant economies as compared to previous methods of delivery." Rail-trailer expansion in the equipment leasing field was forecast last October, when the company terminated its connections with Trailer Train (RA, Oct. 19, 1959, p. 40).

Spokane, Portland & Seattle has begun honoring American Express credit cards but, like parents GN and NP (and the Milwaukee) will continue to honor Rail Travel Agency cards. New York Central was the first system to sign with Amexco and the only one thus far to discontinue Rail Travel Credit Agency membership (RA, June 29, 1959, p. 66).

The GN-NP-Soo Line pool agreement on passenger service between the Twin Cities and Duluth-Superior will be terminated Feb. 3—but it won't affect the public to any extent. The three roads will continue to honor each other's tickets, but each road will collect its own revenue and revenues will no longer be split according to the pool formula. GN has two trains daily each way—and gets most of the remaining business. NP and Soo Line each have a train a day in each direction.

Work rules "can be modernized to the long-run advantage of the employees and the industry itself," BLE Grand Chief Guy L. Brown declared again last week. But, he charged, "management blocks progress in that direction when it accuses us of 'featherbedding', attacks protections which we have been a half-century in building up. . ." Mr Brown also declared that "in the coming year locomotive engineers, I am confident, will receive wage increases in line with the increases obtained by skilled employees in other industries. The general economy can be expected to take an upswing and we should —and will—share in it."

About 37 acres of waterfront property will be sold to the San Francisco Port Authority by Western Pacific for approximately $1,100,000. The tract includes land which WP had reserved for future expansion of its yards and slips—but the port authority also needs the land in connection with development of new deep-water facilities including a "lift-on, lift-off" terminal.

Settlement of the steel strike will contribute heavily to a 6.1% increase in carloadings predicted for first quarter 1960 in Mid-West Shippers Advisory Board territory. The board forecasts gains of 15% in vehicle parts; 10% in automobiles and trucks, coal and coke, ore and concentrates; and 5% in iron and steel.

Fifteen trailerloads of machinery used in the manufacture of aluminum extrusions traveled from Secaucus, N.J., to Fullerton, Calif., in one of the biggest transcontinental piggyback movements ever originated by the Lackawanna. Among the items shipped: two ovens with a combined weight of 71,000 lb.

Open-top loading rules—in a new edition comprising six sections in loose-leaf form printed on letter size sheets—become effective Feb. 1. In most cases, the drawing and specification of each loading method is shown on a single page. The AAR Mechanical Division advises railroads to notify shippers of this new arrangement. Copies will be ready for distribution this month.

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For 1960—Get the Trends Right

This year of 1960 should be one of relative progress and prosperity for railroads—compared to the two years just passed. But it is a critical year too. General business isn't going to keep booming forever. The railroads are not getting "their share" of present and immediately prospective prosperity. Hence, some railroads aren't in any condition to weather successfully a really sharp depression, even of only a couple of years' duration. So 1960 just must be a year of concentration on correcting every unfavorable trend —that can possibly be corrected.

•

Trends are all important—deserving of far more concern than most people give to them. For example, a railroad with an operating ratio of 85 which is declining 3 points a year is in a far healthier condition than one with a ratio of 70 which is climbing 3 points a year.

Among the adverse trends which are most serious—and which must be arrested and reversed—are those of (1) rising operating costs per 100 lb of freight; and (2) diversion of freight traffic away from railroads.

These two trends are often closely related. Costs per 100 lb rise because, among other reasons, less freight is moving—and higher unit costs prevent the making of rates low enough to hold and attract traffic.

There is a device which has great potentiality (largely as yet unrealized) for reducing operating expenses and rates at the same time (while increasing profit margins and attracting greater traffic volume). This is the provision of *an incentive discount for heavier loading*. Here is how it works: You have a rate of, say, $1 per 100 lb, minimum carload 30,000 lb—and the average load you get isn't much higher than the minimum, although you know the commodity could load 60,000 lb or more without danger of excessive damage. So you leave your rate for the minimum where it is, and you give the shipper a discount of 15%, more or less, on every 100 lb by which he exceeds the minimum.

You are getting $300 per carload at the minimum of 30,000 lb. At 60,000 lb you will get $555 per car—with scarcely any perceptible increase in operating expenses, and your shipper will be saving 7½% in his overall freight bill. Everybody gains. Scarce cars are conserved, and cost of car ownership or hire is reduced.

Of course, when such rates are applied, there may be some shippers who will complain—those who, for their own reasons, would prefer to ship 30,000-lb loads (usually by truck) but are under competitive pressure to use the cheapest available transportation. Such shippers may complain to railroad management—and the question then arises whether the primary assignment to rate officers is to make all vocal shippers happy, or to get more traffic and earnings for their railroad.

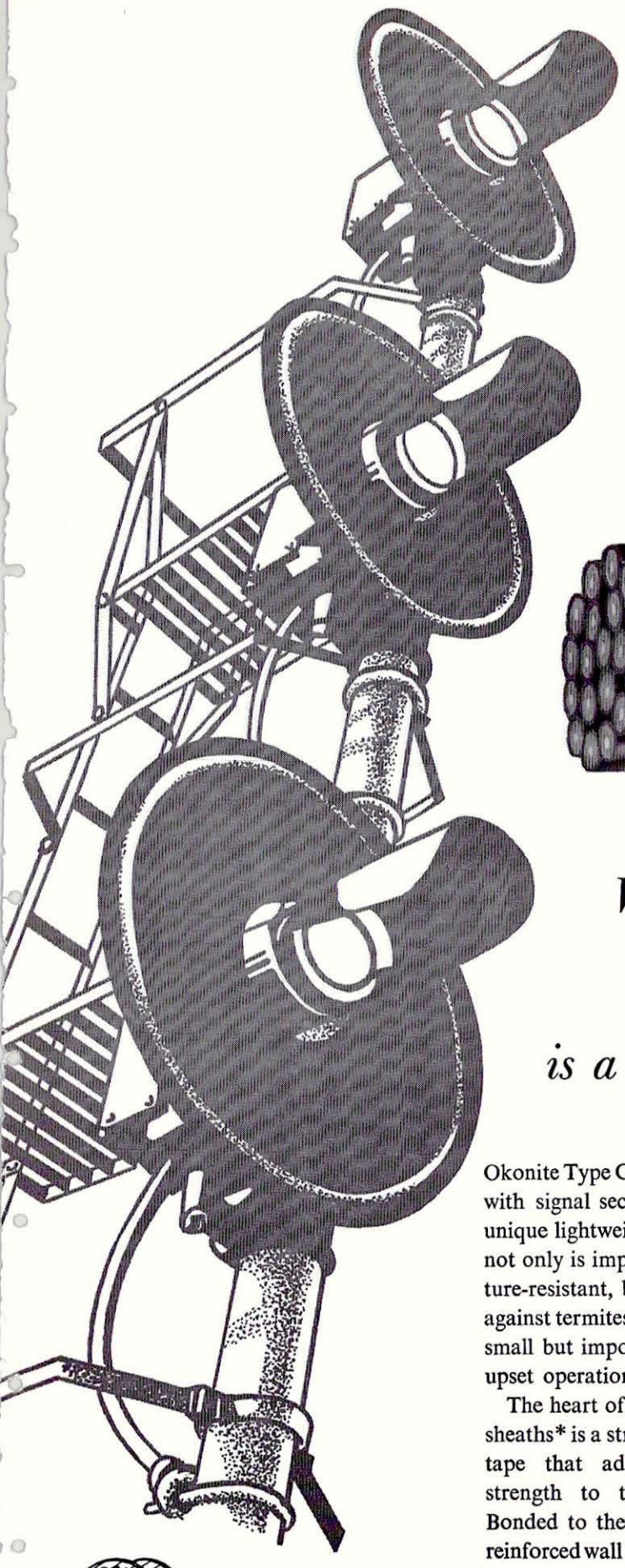
Progressive and ingenious rate officers—if their work is followed, understood and encouraged by management—can probably do more to correct the adverse trends of costs per 100 lb, and of diversion of traffic away from the rails, than anybody else on a railroad.

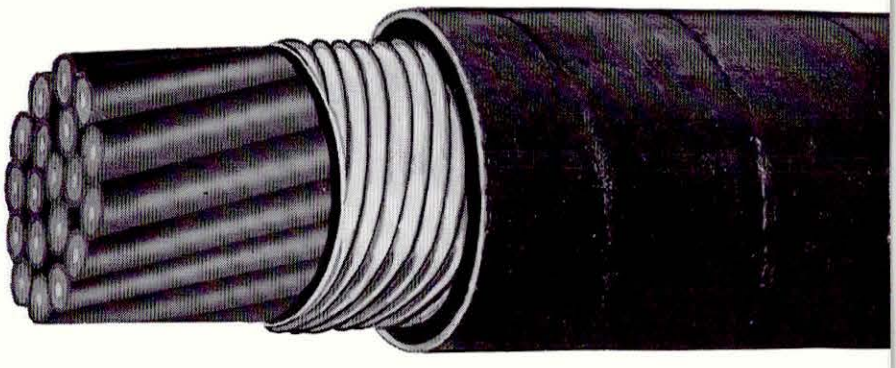
One of the necessary tools for effective rate work is quick and accurate cost information. In many cases, now, heavy reliance has to be placed on ICC cost computations—which may not be dependable for specific movements or those departing widely from "average" conditions. (For example, ICC figures make no differentiation between single-car and multiple-car movements, although as W. B. Wright showed in our January 4 issue, p. 23, the actual cost variation is probably quite substantial). No generally acceptable figures are available to compare the overall costs of piggyback vs. the box-car for varying loads, nor comparing piggyback costs with those "over the road."

•

The railroads have a definite program for improving their external environment (such objectives as nearer tax equality with their competitors, permission to "diversify," modernized working rules). Progress may or may not be recorded in 1960 in this sector. But there are great opportunities to accelerate improvement in those trends subject, in part, to internal control. We've mentioned a couple of them. There are others (e.g., the passenger situation, relations with the Post Office, and LCL).

The past year witnessed a great forward step toward solution of the express situation. A few more such decisive steps in other areas, and the railroads will have turned the corner.





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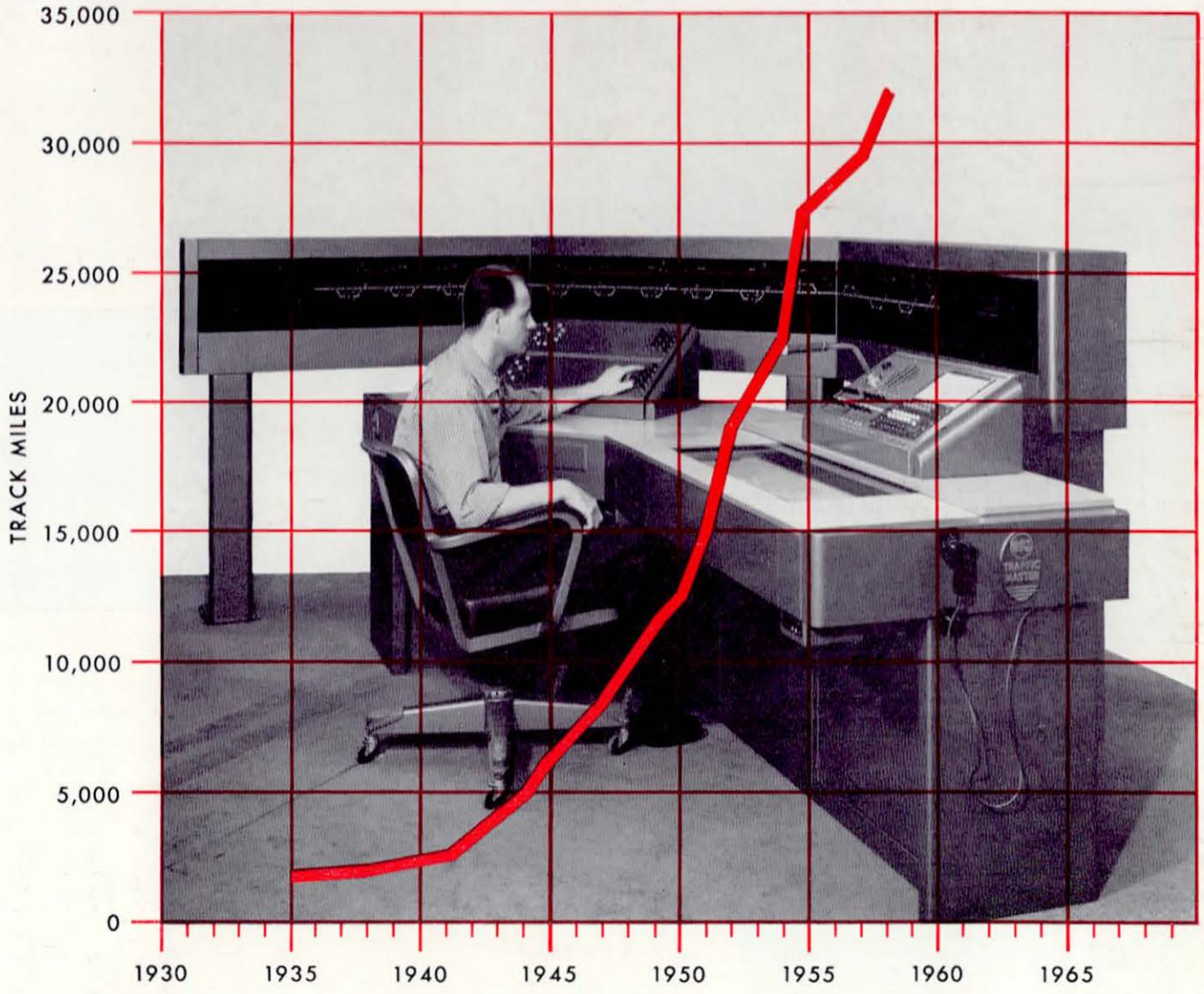

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